# **Kitchen Ventilation Systems** Commercial Kitchen Ventilation Hoods, Filters, External Supply Plenums and Accessories





August 2020

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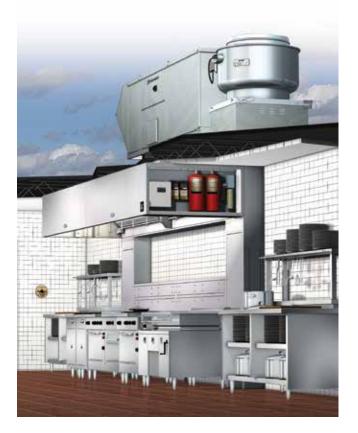
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Greenheck's comprehensive line of kitchen ventilation products are designed to meet the varying needs of commercial kitchens. Whether you are designing a school cafeteria, restaurant, or industrial cooking process, Greenheck has the products and resources to meet your ventilation requirements. Additionally, Greenheck offers exhaust fans, make-up air units, Dedicated Outdoor Air Systems and more to create a complete, reliable and quality kitchen ventilation system.

And the second s	Filtration Options Industry-leading grease extraction filters for Grease Hoods Type I to match your restaurant needs.	Page 3
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# Other product literature and application information from Greenheck:

- Fire Suppression Systems
- Utility Distribution Systems
- Exhaust Fans
- Make-Up Air Units
- Dedicated Outdoor Air Systems
- Visit Greenheck.com

## Grease Hoods — Type I Filtration Options and Overview



### **Options Offering Solutions to Duct Grease Issues**

Grease generated by restaurant kitchens pose many problems; frequent duct cleaning, rooftop grease buildup and compliance with tougher air emissions standards. Greenheck's offering of innovative filter designs address the problem at the source, at a fraction of the cost of other grease removal devices.

Grease-X-Tractor™ with Grease Grabber™ removes 100% of the grease particles at 8 microns. Tested to ASTM F2519-2005, UL 1046 listed and NSF certified.



FILTE	FILTER Suggested Application		Example Appliances	Static Pressure (9 x 4 foot hood at 2050 cfm)	Grease Removal Efficiency at 8 microns
	Grease Grabber Multistage Filtration System	Heavy to Extra Heavy Duty Grease	Solid Fuel Cooking Appliances, Upright Broiler, Gas, Electric & Lava Rock Char-Broiler, Mesquite, Infrared Broiler, Wok Chain Broiler	1.1 to 1.3 in. wg	100%
	Grease-X- Tractor Centrifugal Filtration	Medium to Heavy Duty Grease	Combination Ovens, Gas & Electric Fryers, Griddles, Grill, Upright Broiler, Electric Char-Broiler	0.7 to 0.8 in. wg	69%
	Baffle	Light Duty Grease	Gas & Electric, Ovens/Steamers/Ranges, Food Warmers, Pizza Ovens	0.5 to 0.6 in. wg	28%

### **Grease Hoods Type I Overview**

Greenheck Type I hoods are designed for use above grease-producing equipment and are available in several styles and configurations and offer the following benefits:

- Standard construction is a minimum of 18 gauge, 430 stainless steel
- Hoods can be built in single section lengths from 3-16 feet (914-4,876 mm)
- Flexible heights
- Lengths: Available in 1-inch (25 mm) increments up to 192 inches (4,877 mm) in a single section
- Widths: Available in 3-inch (76 mm) increments up to 84 inches (2,133 mm)
- Longer are hoods available in multiple sections to appear as one hood utilizing our continuous capture option
- Standing seam construction for superior strength
- UL 710 Listed and bears the National Sanitation Foundation (NSF) seal of approval (Standard 2)
- Includes PEL technology to improve capture efficiency



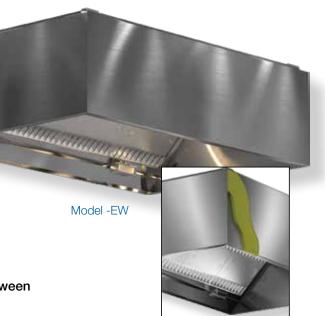
## Grease Hoods — Type I Models



### Wall Canopy Hoods

Greenheck's wall canopy hoods are used over cooking equipment that produce heat and grease-laden effluent. Wall canopy hoods are intended to be used when the cooking equipment is placed against a wall. A wide variety of sizing and hood options, along with several accessories, makes Greenheck the right choice to meet your design requirements.

- Exhaust only supply air is introduced through ceiling diffusers or external supply plenums (shown on pages 12-14)
- More dimensional flexibility than other manufacturers
- Available as Single-Wall Front (shown above) or Double-Wall Front (inset detail)
- Double-Wall provides one-inch (25 mm), of insulation between the two front panels for additional strength and rigidity



Model -DW

#### **Auto Scrubber**

#### **Versatile Filtration**

The Auto Scrubber can be used with any of Greenheck's filters - baffle, Grease-X-Tractor™, Grease Grabber™.

#### **Superior Cleaning**

The Auto Scrubber cleans not only the inside of the exhaust plenum, but washes both sides of the filters as well.

#### **Easy Maintenance**

Filter and fire system components are easily inspected and serviced via tool-less access panels located within the hood. Large 2-inch (51 mm) drains capture grease with ease.

#### Connected

The Auto Scrubber can connect to a building automation system via BACnet<sup>®</sup> MSTP, BACnet<sup>®</sup> IP, or Modbus<sup>®</sup>. The Auto Scrubber is also compatible with Greenheck KFCC and Vari-Flow control platforms.





## Grease Hoods — Type I Models



### **Proximity (Backshelf) Hoods**

Greenheck proximity hoods have an industry-leading five dimensions of flexibility, which make them the perfect solution for light and medium-duty cooking applications with low ceilings. The Greenheck proximity hood sits close to the cooking equipment allowing for lower exhaust rates and smaller hoods.

Type I proximity hoods are designed for grease-and heat-laden effluent and are shorter in front tapered height and width than a canopy hood. The name "proximity" refers to the close proximity of the hood with respect to the cooking equipment. In addition, Greenheck proximity hoods have an optional plate shelf and/or passover enclosure and flue bypass to meet your design requirements.



### Single-Island (V-Bank) Canopy Hoods

Greenheck's Type I single-island style canopy hoods are used over cooking equipment that produce heat and grease-laden effluent. Single-island style canopy hoods are used over one row of cooking equipment placed where no walls exist. Single-island hoods can be seen from all directions and have four finished stainless steel sides available in both V-bank and single-bank filter configurations. Greenheck offers a variation of the single-island hood for use over pizza ovens.

#### Exhaust Only - Single-Wall

Supply air is introduced through ceiling diffusers or external supply plenums.



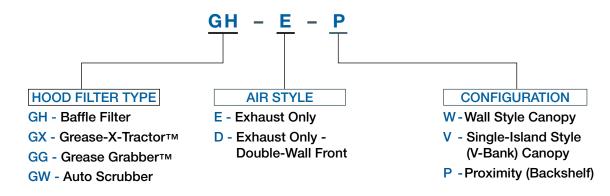
#### **Specialty Hoods**

Greenheck offers many options for specialty hoods such as radiused corners, heavier gauges and custom cladding.



### **Model Code**

See the Type I Hood Options and Accessories table on page 8 for additional information.







**External Supply Plenum** - Greenheck offers several arrangements to supply air back into the kitchen space uniformly. External plenums positioned at or near the exhaust hoods are the best alternative to integral supply plenums. Unlike integral supply plenums, external supply plenums do not sacrifice valuable exhaust hood containment area. They can also be retrofitted to almost any hood and are generally less expensive than integral supply plenums. Greenheck offers the following external supply choices:



Air Curtain Supply Plenum (ASP) - Air curtain supply plenums are typically used in nontempered or heat-only applications, depending upon climate (can be used as an efficient method for spot-cooling).



**Split Air Curtain Supply Plenum (Split ASP)** - The optional split air curtain supply plenum (Split ASP) is an attractive method to provide make-up air and conditioned air through one plenum. Non-tempered make-up air is drawn into the hood, while the cooled conditioned air moves outward to provide spot cooling to the kitchen space.



**Back Supply Plenum (BSP)** - Back supply plenums are typically used in non-tempered or marginally tempered applications, and these plenums are also ideal for heating air during the colder months since hot air will rise from its low discharge position.



**Tapered Hood** - For low ceiling applications, tapered fronts are available on wall canopy hoods in 12-, 15-, or 18-inch (*305-, 381-, or 457-mm*) heights. 12-and 15-inch (*305-and 457- mm*) tapers require a 12-inch (*305 mm*) overhang on all exposed sides.



**Exhaust Air Balancing Baffles -** To help balance exhaust airflows between multiple ducts or hood sections being exhausted through one duct line. Air balancing baffles can be mounted at the exhaust collar openings which allow the exhaust opening to be closed up to 50%.



**Zero Clearance** - Our clearance reduction system utilizes a one-inch (*25 mm*) thick insulating material on the front, back, sides and top of the hood as needed. This provides great value, especially in retrofit building applications, allowing new hoods to be mounted closer to combustible surfaces, such as cabinetry and wood roof trusses, while satisfying both safety standards and codes.



Utility Cabinets Hood/Mount Wall Mount - Utility cabinets for fire system and/or control mounting can be attached to the left or right side of the hood. Remote (wall mount) cabinets are also available.



**End Skirts** - End skirts are available in both full and mini configurations and are constructed with either series 300 or 430 stainless steel to match the hood. End skirts can lower required exhaust rates as they improve capture.



**Backsplash panels/side splash panels** - Splash panels provide an aesthetically desirable and easily cleanable stainless-steel surface behind or on adjacent walls near the hood. Constructed of series 300 or 430 stainless steel to match the hood. Also available with 1-inch (25 mm) zero clearance insulation.



**Ceiling Enclosure** - When the top of the hood is mounted lower than the finished ceiling height, enclosure panels can be provided in series 300 or 430 stainless steel to match your hood. These enclosures create an aesthetically pleasing finish.



**Continuous Capture -** Provides a UL Listed bolted connection allowing end-to-end hoods to be connected and appear as one hood.



**Airspace/Filler Panels** - To assist with clearances to combustible surfaces, stainless steel airspaces can be supplied. These panels can also be used to fill in open spaces and improve aesthetics.





**Lighting Options -** Multiple lighting options are available. Screw-in fixtures for incandescent or CFL lights are standard. For more efficient lighting, recessed round LED lights are available. All fixtures are vapor proof and UL Approved. LED lights save up to 95% in electrical costs when compared to standard incandescent lights.



Filtration Options - A variety of filtration options are available with industry-leading grease extraction efficiencies to suit specific needs.



**Grease Grabber** - Suitable for heavy to extra heavy-duty grease applications. Appropriate for appliances include solid fuel cooking appliances, upright broiler, gas, electric and lave rock, char-broiler, mesquite, infrared broiler and wok chain broiler.



**Grease X-Tractor** - Well suited for medium to heavy duty grease applications. Appropriate for appliances including combination ovens, gas and electric fryers, griddles, grill, upright broiler and electric char-broiler.



**Baffle** - Suitable for light duty grease applications. Ideal for use in gas and electric ovens/ steamers/ranges, food warmers and pizza ovens.



Filter Removal Tool - Filter removal tools enable operators to safely reach and remove filters from the hood while standing on the floor in front of appliances.

#### Other options and accessories include:

**Insulated Supply Plenum** - With some plenums, condensation can occur from bringing in cold air near to where hot air is being exhausted. By insulating these plenums, problems with condensation are alleviated. This also helps prevent cooler incoming air from being heated by warmer exhaust air.

**Material Options** - Standard construction is stainless steel where exposed and galvanized steel in the unexposed plenum. 100% stainless steel construction is available. Either option is available in series 300 or 430 stainless steel.

Automatic Fire Damper - In areas where exhaust fire dampers are required, a UL Listed motorized butterfly damper can be installed in the exhaust collar that closes at 285°F.

**Finished Back** - With most wall canopy hoods, hanging is done against a wall, making the need for an aesthetically pleasing finished back unnecessary. For instances in which the back is visible, the same finish as the other three sides of the hood can be provided.

Electrical Switches for Lights and Fan - Switches can be shipped loose for remote mounting, mounted on the hood face, or in the utility cabinet.

Trim Strips - Stainless steel strips to be used anywhere hood sections meet to improve aesthetics.

#### Supply Collars -

Additional Collars - To keep supply airflow velocities around the hood low, additional supply collars can be added for higher supply airflow volumes.

**Shape (Round or Rectangle)** - To accommodate various ductwork, different shaped collars are available on most supply plenums in both round and rectangular shapes.

#### Exhaust Collars -

**Ship Loose** - Shipping exhaust collars loose provides an exhaust collar to be used, but no exhaust cutout in the hood. This enables the contractor to locate and cut the exhaust opening, where desired, when not known ahead of time.

Shape - To accommodate various ductwork, several sizes of rectangular and round collars are available.

Location (Back) - Back placement for mounted exhaust collars can go anywhere within the plenum area.



OPTIONS GUIDE	Wall Canopy		Single- Island (V-Bank)	Proximity (Backshelf)	Auto Scrubber	
	Exhaust Only Single Double Wall Wall		Exhaust Only	Exhaust Only	Exhaust Only	
Filter Options	Model	-EW	-DW	-EV	-EP	GW-
Baffle Filter	GH	Optional	Optional	Optional	Optional	Optional
Grease Grabber™ Multistage Filtration System	GG	Optional	Optional	Optional	Optional	Optional
Grease-X-Tractor™ Centrifugal Filtration	GX	Optional	Optional	Optional	Optional	Optional
Hood Options						
Air Curtain Supply Plenum (ASP)	-	Optional	Optional	Optional	-	Optional
Airspace/Filler Panels	-	Optional	Optional	Optional	Optional	Optional
Automatic Fire Damper	-	Optional	Optional	Optional	Optional	-
Back Supply Plenum (BSP)	-	Optional	Optional	-	Optional	Optional
Backsplash Panels/Sidesplash Panels	-	Optional	Optional	-	Optional	Optional
Ceiling Enclosures	-	Optional	Optional	Optional	Optional	Optional
Continuous Capture	-	Optional	Optional	-	-	-
End Skirt	-	Optional	Optional	Optional	Optional	Optional
Exhaust Air Balancing Baffles	-	Optional	Optional	Optional	Optional	Optional
Exhaust Collar Location (Back)	-	Optional	Optional	-	Optional	Optional
Exhaust Collar Shape	-	Optional	Optional	Optional	Optional	Optional
Exhaust Collar Ship Loose	-	Optional	Optional	Optional	Optional	Optional
Filter Removal Tool	-	Optional	Optional	Optional	Optional	Optional
Finished Back	-	Optional	Optional	-	Optional	Optional
Lighting Options	-	Optional	Optional	Optional	Optional	Optional
Material Options	-	Optional	Optional	Optional	Optional	Optional
Split Air Curtain Supply Plenum (Split ASP)	-	Optional	Optional	Optional	Optional	Optional
Switches	-	Optional	Optional	Optional	Optional	Optional
Tapered Hood	-	Optional	Optional	Optional	-	Optional
Trim Strips	-	Optional	Optional	Optional	Optional	Optional
Utility Cabinets Hood Mount/Wall Mount	-	Optional	Optional	Optional	Wall Mount Only	Optional
Zero Clearance	-	Optional	Optional	Optional	Optional	Optional

# Heat and Condensate Hoods — Type II



### **Overview and Typical Applications**

Type II hoods are designed to capture heat and condensate from non-grease producing appliances such as ovens and dishwashers.

- National Sanitation Foundation (NSF) Seal of Approval (Standard 2)
- Standard construction is a minimum of 18 gauge, 430 stainless steel
- Flexible lengths, widths and heights
- Hood length: Available in 1-inch (25 mm) increments up to up to 196 inches (4,978 mm) in a single section
- Hood widths: Available in 3-inch (76 mm) increments up to 84 inches (2,133 mm)
- · Standing seam construction for superior strength
- · Excellent dimensional tolerances due to highly tooled manufacturing

### **Non-Filtered Heat and Fume Hoods**

Greenheck's heat and fume hood is primarily used for ovens or general ventilation applications to capture heat and vapor, creating a more comfortable environment for the cooking staff.

Model GO: Primarily used for oven applications. Can be used for other heat and fume removal applications. No gutter or drain. Lighting options available.

#### **Condensate Hoods**

The following models include a gutter and have an optional drain connection. Condensate baffle options below.

Model GD1: No baffles. Most economical and flexible in condensate applications. Lighting options available.

**Model GD2:** One baffle. Designed for moderate condensation applications. Great for vertical door dishwasher applications. Lighting options available.

Model GD3: Two baffles. Designed for heavy condensate applications.

#### **Model Number Code**

The Model Number Code is designed to completely identify the unit. The correct code letters must be specified to designate the configurations and size.



HOOD TYPE II

GO - Oven GD1 - Condensate - No Baffle GD2 - Condensate - Single Baffle GD3 - Condensate - Double Baffle









**External Supply Plenum** - Greenheck offers several arrangements to supply air back into the kitchen space uniformly. External plenums positioned at or near the exhaust hoods are the best alternative to integral supply plenums. Unlike integral supply plenums, external supply plenums do not sacrifice valuable exhaust hood containment area. They can also be retrofitted to almost any hood and are generally less expensive than integral supply plenums. Greenheck offers the following external supply choices:



Air Curtain Supply Plenum (ASP) - Air curtain supply plenums are typically used in nontempered or heat-only applications, depending upon climate (can be used as an efficient method for spot-cooling).



**Split Air Curtain Supply Plenum (Split ASP)** - The optional split air curtain supply plenum (Split ASP) is an attractive method to provide make-up air and conditioned air through one plenum. Non-tempered make-up air is drawn into the hood, while the cooled conditioned air moves outward to provide spot cooling to the kitchen space.



**Back Supply Plenum (BSP)** - Back supply plenums are typically used in non-tempered or marginally tempered applications, and these plenums are also ideal for heating air during the colder months since hot air will rise from its low discharge position.

**Mesh Filter** - With most Type II hoods, the exhaust opening is unfiltered. Adding a mesh filter in the exhaust collar helps prevent anything other than heat and moisture from passing through the duct opening. *Not available for models GD2 (single baffle) and GD3 (double baffle).* 



**End Skirts** - End skirts are available in both full and mini configurations and are constructed with either series 300 or 430 stainless steel to match the hood. End skirts can lower required exhaust rates as they improve capture.



**Backsplash panels/side splash panels -** Splash panels provide an aesthetically desirable and easily cleanable stainless-steel surface behind or on adjacent walls near the hood. Constructed of series 300 or 430 stainless steel to match the hood. Also available with 1-inch (25 mm) zero clearance insulation.



**Lighting Options** - Depending on the width and baffle quantity in the hood, UL Listed incandescent and LED fixtures are available. *Incandescent lighting not available for model GD3 (double baffle).* 



**Ceiling Enclosure** - When the top of the hood is mounted lower than the finished ceiling height, enclosure panels can be provided in series 300 or 430 stainless steel to match your hood. These enclosures create an aesthetically pleasing finish.



**Airspace/Filler Panels** - To assist with clearances to combustible surfaces, stainless steel airspaces can be supplied. These panels can also be used to fill in open spaces and improve aesthetics.



Utility Cabinets Hood/Mount Wall Mount - Utility cabinets for fire system and/or control mounting can be attached to the left or right side of the hood. Remote (wall mount) cabinets are also available.



**Exhaust Air Balancing Baffles** - To help balance exhaust airflows between multiple ducts or hood sections being exhausted through one duct line. Air balancing baffles can be mounted at the exhaust collar openings which allow the exhaust opening to be closed up to 50%.



Material Options - Standard construction is 18-gauge, 100% stainless steel. Available in series 300 or 430 stainless steel.

**Electrical Switches for Lights and Fan** - Greenheck Type II hoods allow for switch mounting in a cabinet attached to the hood or as a remote option. *Not available for model GD3 (double baffle).* 

Trim Strips - Stainless steel strips to be used anywhere hood sections meet to improve aesthetics.

#### **Exhaust Collars -**

**Ship Loose** - Shipping exhaust collars loose provides an exhaust collar to be used, but no exhaust cutout in the hood. This enables the contractor to locate and cut the exhaust opening, where desired, when not known ahead of time. **Shape** - To accommodate various ductwork, several sizes of rectangular and round collars are available.

		Condensate		
OPTIONS GUIDE	Heat/Oven	No Baffle	Single Baffle	Double Baffle
	Model GO	Model GD1	Model GD2	Model GD3
Air Curtain Supply Plenum (ASP)	Optional	Optional	Optional	Optional
Airspace/Filler Panels	Optional	Optional	Optional	Optional
Back Supply Plenum (BSP)	Optional	Optional	Optional	Optional
Backsplash Panels/ Sidesplash Panels	Optional	Optional	Optional	Optional
Ceiling Enclosures	Optional	Optional	Optional	Optional
End Skirt	Optional	Optional	Optional	Optional
Exhaust Air Balancing Baffles	Optional	Optional	Optional	Optional
Exhaust Collar Shape	Optional	Optional	Optional	Optional
Exhaust Collar Ship Loose	Optional	Optional	Optional	Optional
Incandescent Lighting	Optional	Optional	Optional	—
Mesh Filter	Optional	Optional	_	_
Split Air Curtain Supply Plenum (Split ASP)	Optional	Optional	Optional	Optional
Switches	Optional	Optional	Optional	_
Trim Strips	Optional	Optional	Optional	Optional
Utility Cabinets (Hood Mount/Wall Mount)	Optional	Optional	Optional	Optional

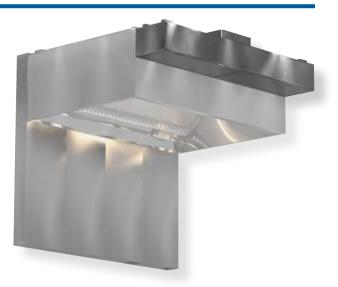
# **External Supply Plenums**



### **Make-Up Air Benefits**

- Improves hood capture and containment performance
- Equalizes restaurant pressure so that entrance doors are not difficult to open.
- Eliminates unconditioned outdoor from infiltrating the restaurant space making customers uncomfortable.
- Minimizes the infiltration of insects.
- Eliminates condensation from forming on open ceiling duct work, and dripping condensation on customers.
- Improves the kitchen environment resulting in a more efficient staff.

Make-up air into a kitchen can be introduced several ways, including through the hood with an integrated supply plenum or an external supply plenum. External plenums positioned around the perimeter of exhaust



only hoods are a great alternative to integral supply plenums. Unlike integral supply plenums, they do not sacrifice valuable hood containment area. They can also be retrofitted to almost any hood and are generally less expensive than integral plenums. Greenheck offers

the following external supply choices - Air Curtain Supply Plenum (ASP), Split Air Curtain Supply Plenum (Split ASP) and the Back Supply Plenum (BSP).

Plenum Type		Discharge Opening (Inches)	Recommended Supply Rate (cfm/ft)	Recommended Application	
	Air Curtain Supply (ASP) 12-inch (305 mm) up to 24-inch (610 mm)	12-inch (305 mm): 10 24-inch (610 mm): 22	12-inch <i>(305 mm</i> ): Up to 110 24-inch <i>(610 mm</i> ): Up to 145	All Conditions To minimize mixing with air in the space by distributing airflow at the hood, downward.	
	Split Air Curtain Supply (Split ASP) 12-inch (305 mm) up to 24-inch (610 mm)	12-inch (305 mm): 10 24-inch (610 mm): 22	12-inch <i>(</i> 305 <i>mm</i> ): Up to 110 24-inch <i>(</i> 610 <i>mm</i> ): Up to 145	<b>All Conditions</b> To minimize mixing with air in the space by distributing airflow at the hood, downward.	
	Back Supply (BSP)	6	Up to 145	Non-Tempered or Marginally Tempered Air Air is kept near hood to minimize mixing with air in the space.	

\* Climate determines tempering conditions.

# **External Supply Plenums**



### Air Curtain Supply Plenum (ASP)

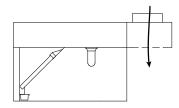
Air curtain supply plenums are typically used in non-tempered or heat-only applications, depending upon climate (can be used as an efficient method for spot-cooling).

- Air curtain supply plenums introduce the air near the hood to minimize mixing with air in the space
- A series of perforated panels evenly distribute air at lower discharge velocities which benefit hood capture and containment
- Easy and flexible installation
- Mounted 14-20 inches (356-508 mm) above the bottom edge of the hood or flush with a drop ceiling
- External plenums can be placed on multiple sides of the hood to create a curtain of air on all exposed sides and increase the volume of air brought in at the hood at low velocities
- The air curtain supply plenum is available in widths of 12 to 24 inches (305 to 610 mm), in one-inch (25 mm) increments.

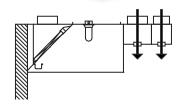
#### **Split Air Curtain Supply Plenum**

The optional split air curtain supply plenum (Split ASP) is an attractive method to provide make-up air and conditioned air through one plenum. Non-tempered make-up air is drawn into the hood, while the cooled conditioned air moves outward to provide spot cooling to the kitchen space.







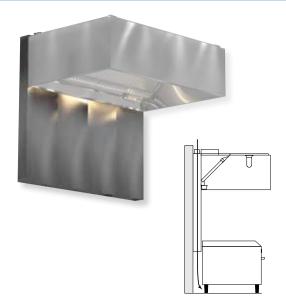


### **Back Supply Plenum (BSP)**

Back supply plenums are typically used in non- tempered or tempered applications.

An effective way to introduce make-up air into the kitchen is from the rear of the hood through a plenum discharging behind and below the cooking appliances.

- Back supply plenums also function as a backsplash panel and provide the proper clearance to limited combustibles needed in many installations to meet NFPA 96 standards
- Does not affect capture and containment, cooking surface temperature, or pilot lights
- These plenums are 6 inches (*152 mm*) deep, stretch the entire length of the hood and discharge at 31.25 inches (*794 mm*) above the finished floor



# **Critical KVS Exhaust and Supply Air Components**



#### Fans



Models CUE / CUBE



Models CUE / CUBE Wall



Model USGF





### **Dedicated Outside Air Systems (DOAS)**

DOAS units are also know as rooftop ventilators.

The Greenheck RV/RVE are pre-engineered rooftop ventilators that condition and deliver 100% outside air or mixtures of outdoor air and return air to a building. This unit is ideal for 100% outdoor air, variable air volume and single zone applications.

The RV/RVE offers several value-added features. These include a microprocessor and direct drive plenum fan(s) with variable frequency drives (VFDs).

- Energy recovery wheel for superior energy savings (RVE)
- · Inverter compressor for increased part load efficiency
- · Web user interface with microprocessor controls
- · Modulating hot gas reheat
- High turndown furnace up to 16:1 (patent pending)
- Recirculation damper
- · Low sound condenser fans on select models
- Electronically commutated motor or VFD on the lead condenser fan



Model RV / RVE

#### Learn more at Greenheck.com

# Critical KVS Supply Air Components



#### Make-up air solutions designed for efficient, effective kitchen operation.



#### **Direct Gas-Fired Make-Up Air Units**

These direct gas-fired make-up air units feature a highquality burner that combines a cast aluminum manifold with stainless steel manifold/end plates.



#### **Indirect Gas-Fired Make-Up Air Units**

Indirect gas-fired heating make-up air units feature 80% total efficient furnaces.



Models

### **Non-Gas-Fired Make-Up Air Units**

Many applications require an alternative to gas-fired heating. Make-up units feature electric, hot water or steam heat providing safe and efficient options.



#### **Non-Tempered Make-Up Air Units**

Non-tempered make-up air units are ideal for cost-sensitive applications where heating and cooling are not required.

#### Learn more at Greenheck.com

# **Design and Selection Support**

#### Enjoy Greenheck's extraordinary service, before, during and after the sale.

Greenheck offers added value to our wide selection of top performing, energyefficient products by providing several unique service programs.



Our Quick Delivery program ensures shipment of in-stock products within 24 hours of placing your order. Our Quick Build made-to-order products are manufactured in 1-3-5-10-15 or 25-day production cycles, depending upon its complexity.

Greenheck's free computer aided product selection program CAPS<sup>®</sup>, rated by many as the best in the industry, helps you conveniently and efficiently select the right products for the challenge at hand.

Our 3D service allows you to download, at no charge, easyto-use AutoDesk<sup>®</sup> Revit<sup>®</sup> 3D drawings for many of our ventilation products.

Find out more about these special services at greenheck.com















### **Building Value in Air**

Greenheck delivers value to mechanical engineers by helping them solve virtually any air quality challenges their clients face with a comprehensive selection of top quality, innovative airrelated equipment. We offer extra value to contractors by providing easy-to-install, competitively priced, reliable products that arrive on time.

And building owners and occupants value the energy efficiency, low maintenance and quiet dependable operation they experience long after the construction project ends.

### **Our Commitment**

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

Specific Greenheck product warranties are located on greenheck.com within the product area tabs and in the Library under Warranties.

