



## **WELCOME TO LARKIN INDUSTRIES, INC.**

**Congratulations!!! You have received one of the most comprehensive and user friendly kitchen ventilation catalogs that is in use today.**

**Our hope is that you are involved in some phase of the kitchen hood and kitchen ventilation package. Whether you are a member of the design team or the installation team, we hope that this catalog is of help when questions arise about the function and performance of the kitchen ventilation system.**

**This information can be helpful when selecting hood models, determining air flow, static pressure at the exhaust or supply duct collars, and required overhang. It also offers other information necessary to properly design a kitchen ventilation system.**

**If you have any questions about our catalog or if you have any questions about kitchen ventilation systems, please call our customer service department at 1-800-322-4036. You may also contact our customer service department via the fax, at (205) 987-0583, via email - [sales@larkinhoods.com](mailto:sales@larkinhoods.com), or visit us on the web at [www.larkinhoods.com](http://www.larkinhoods.com).**

**We hope that our catalog becomes a valuable tool as you begin the design work on your next kitchen ventilation system.**

**Thank you in advance for using Larkin Industries, Inc.**

## **SERVICES OFFERED BY LARKIN INDUSTRIES, INC.**

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## Glossary of Terms



**Air, Make-Up or (Supply Air)** - Air required to replace or make-up air that is exhausted in a building. Also, from NFPA-96; air deliberately brought into the structure, then specifically directed to the vicinity of a mechanically or thermally forced exhausting device for the purpose of compensating for the air or gases being expelled.

**CFM** - Cubic feet per minute. Most air flow design data is measured in cfm. The volume of air moved per minute.

**Duct** - A passageway made of sheet metal (usually exhaust duct is made from 16-gauge black iron) or suitable material, used for conveying air or other gas at low pressures.

**Duct Velocity** - Air speed through the (exhaust duct). The rate of motion. NOTE: NFPA-96, 8.2.1.1 states that the air velocity through any exhaust duct shall not be less than 500 FPM.

**Face Velocity** - The velocity obtained by dividing the air quantity by the component face area.

**FPM** - Feet per minute. (Velocity of Air)

$$\frac{\text{Volume (cfm)}}{\text{Area (in Sq. Ft.)}} = \text{FPM}$$

**Fan Centrifugul** - A fan rotor or wheel within a scroll-type housing and including driving mechanism supports for either belt drive or direct drive.

**Free Air Delivery** - The conditions existing when there are no effective restrictions to air flow. No measurable static pressure.

**Full-Load Amps** - Line current (amperage drawn by a motor when operating at rated load and voltage.)

**Liquid-Tight** - Constructed and performing in such a manner as not to permit the passage of any liquid at a given temperature and pressure.

**Outlet Velocity** - The average velocity of air emerging from an opening, fan, or outlet measured in the plane of the opening.

**Pressure Drop** - Pressure loss in fluid pressure, as from one end of a duct to the other, duct friction, dynamic losses, and changes in velocity pressure.

**RPM** - Revolutions per minute. The speed at which the shaft or motor of an air moving device is rotating.

**Sones** - A subjective unit of loudness. The loudness of an exhaust fan is measured in sones. Kitchen exhaust above 18 sones could spell trouble.

**Starting Amps** - The surge of amperage needed to start a particular electrical device.

**Static Pressure** - This is an important term to understand. A measure of the resistance to movement of forced air through a system caused by ductwork, inlets, louvers, filters, etc. Measured in inches of water gauge (wg.).

**Resistance to Air Flow** - Resistance to air flow from ductwork, filters, dampers, louvers, etc. will increase static pressure and decrease volume (CFM).

**Thermal Protector** - A temperature-sensing device built into the motor that disconnects the motor from its power source if the temperature becomes excessive.

**Type I Hoods** - Hoods used over smoke and grease producing equipment. This type hood should be equipped with baffle type grease filters.

**Type II Hoods** - Hoods used over non-grease or smoke producing equipment where heat or steam removal is required.

**Updraft** - The upward movement of air due to a change in density. Remember, one of the reasons for a six-inch overhang is that air expands as it is heated.

**Velocity** - A vector (a quantity which requires a direction to be stated in order to define it) quantity which denotes, at once, the time rate and the direction of a linear (straight) motion: in other words, the quickness of something.

**Pantleg Ductwork** - Used on end-to-end hoods or hoods with two duct collars to connect the two collars to a single duct.



No doubt you have often heard a chef complaining about a hot kitchen. It is a common complaint and usually it is the kitchen hood that gets singled out as the primary cause for discomfort. However, in most cases, it is not a malfunctioning hood at fault but the forces of "radiant heat". Cooking equipment produces two types of heat, radiant and convected. Convected heat is defined as air in contact with a hot surface which absorbs the heat from that surface, expands and rises, thus conveying the heat with it. In a kitchen, convected heat comes off the cooking surface and is carried up into the exhaust hood by the thermal air currents and by the air being pulled across the cooking equipment. If the hood is operating properly, all of the convected heat will be exhausted. Radiant heat as defined by the Ashrae Handbook, is the transmission of heat through space by wave motion from one object to another without warming the space between. Unlike convected heat, radiant heat comes off the cooking surface at all different angles, some bouncing off the back wall and the hood's surfaces. Radiant heat always travels in a straight line and will not change direction until it hits a solid object. Since the chef is normally standing in front of the equipment he receives the full effect of this radiant heat. The air being drawn across the cooking equipment and up into the hood will not reduce the amount of radiant heat regardless of how fast the air is moving. As radiant heat strikes an object, that object will produce convected heat which, in turn, affects the temperature of the room. Thus, radiant heat indirectly heats the air in a kitchen. By first transferring the heat from the cooking equipment directly to the chef and then by helping to produce additional convected heat. Radiant heat is the primary cause for the uncomfortable environment in which a chef must work.

A simple test can be used to demonstrate the effect of radiant heat. With a chef standing in front of a hot range, hold a thermometer at chest level and record the reading. Now place a large piece of cardboard between the chef and the range. You will notice the chef will feel much cooler. Put the thermometer between the chef and the cardboard and you will find that the temperature has not changed. While the temperature of the air around the chef has not been altered, the chef feels cooler because the cardboard has effectively stopped the radiant heat being supplied by the cooking equipment.

In summary, keeping a chef comfortable in a kitchen environment is a difficult task. Independent studies show that to provide a totally comfortable environment for a chef standing continuously in front of a hot range, air temperatures of below 0° F would be needed for his face, 32° F for his waist and 70° F for his legs.

There are, however, a few simple things that can be done to help reduce the effects of radiant heat.

1. Keep the cooking equipment turned down as low as possible when not in use.
2. For cooking appliances such as ranges, hot tops, open burners, etc., put pans of water on the range top. This will absorb a considerable amount of radiant heat by changing it to latent heat (moisture) which, in turn, is drawn up by the hood.
3. By wearing white clothing, some of the radiant heat will be reflected.

### Interesting Facts on Radiant Heat

1. Radiant heat can constitute up to 90% of the internal heat load in a kitchen.
2. Radiant heat wastes 8% to 15% of the total energy consumed by the restaurant.
3. Radiant heat equals 20% to 35% of the actual energy input to the cooking equipment.



## Introduction to Ventilation Design



Kitchen ventilation design can be very complex. There are many competing formulas and theories on the best way to design a properly functioning kitchen ventilation system. ASHRAE has recently conducted the most comprehensive study to date. The formulas are complex and do not necessarily represent each manufacturer's specific models and their performance in actual field conditions.

The kitchen ventilation industry and code authorities have combined the results of extensive laboratory testing and actual field experience to shorten and simplify these formulas.

Most code authorities require air flow rates based on the worst condition cooking loads and type of cooking appliances unless they are listed by a nationally recognized testing authority such as Electrical Testing Laboratory (ETL) or Underwriters Laboratory (UL). Larkin Industries ETL listed air flow data allows the designer to use air flows lower than the International Mechanical Code and NFPA-96 requires. Note: Larkin Industries often recommends air flows that exceeds their ETL listed air flow data to allow for actual field conditions.

ETL and UL listings are frequently misunderstood by hood designers and code authorities. ETL & UL certifies that a particular hood is built to NFPA 96 Standards, meets the National Electrical code NFPA 70, and is inspected, tested and evaluated to the standards found in Exhaust Hoods for Commercial Cooking Equipment ANSI/UL 710. All hoods are tested under controlled laboratory conditions. The guidelines for these tests are as follows: hoods are tested with only one piece of equipment under the hood, a griddle at 450° F and a charbroiler at 600° & 700° F also laboratory air pressure, temperature, humidity, size of laboratory, fat content of meat, and drafts are all controlled. The air flow rates are established when all the smoke is removed by the hood and this is determined by a visual inspection.

Larkin Industries, Inc. factory recommendations may differ from actual test data, to allow for field conditions such as cross drafts, inadequate overhangs, dirty filters, loose fan belts, pass-through windows on back of hood, hood hung higher than specified, heavy cooking loads on ends of hood (without overhang allowance), longer-than- expected or re-routed ductwork, non radius elbows, header duct systems instead of pant leg, overloading cooking equipment during peak operation (such as charbroilers and griddles with high fat content foods), personnel movement about the space causing drafts, outside doors opening adjacent to hoods during cooking operation, system not properly balanced, etc. As you can see, all these and other problems are commonplace in actual field conditions, and are not involved during ETL and UL testing. Most all factories publish their ETL and UL test data, for engineers and designers; please exercise caution when using Larkin Industries, Inc. or any factory's ETL and UL test data. We recommend a 10 to 25 percent safety factor be added after the total job's CFM are obtained, to allow for probable field conditions. Remember there is nothing worse than an installed kitchen ventilation system that does not work properly!

*\*\*The following pages are the data obtained from our years of ETL and UL testing.*

# Ventilation System Design Guide



**When designing a kitchen ventilation system the following information must be known:**

1. What type of hood is desired?
2. Will a wall or island hood be needed?
3. What size kitchen hood is needed (after the overhang is added)?
4. What load (smoke and grease vapors) at what temperature?
5. Is make-up air required and how much from the hood?

The following ETL test data, static pressure charts, and collar sizing information should help you select a Larkin system to meet your design requirements. If any assistance is needed, consult Larkin Industries, Inc. Our staff will be glad to assist you at 1-800-322-4036.

**The exhaust and supply CFM are determined by the hood length and cooking load.**

- Light-Medium load (steamers, kettles, ovens, griddles, fryers, open burner ranges) up to 450° F cooking temperature.
- Heavy load (charbroilers (gas and electric), salamanders, upright broilers, wok) up to 600° F cooking temperature.
- Extra-Heavy load (charcoal broilers, mesquite grills, gas conveyor charbroilers) up to 700° F cooking temperature.

**NOTE:** *If a mixture of equipment is used under one hood, it is recommended to define the cooking load to the next highest load or use separate hoods.*

**Example:** With one oven, one range, two fryers, and one griddle at 450° F, and a charbroiler at 600° F, a heavy load should be selected.

**The recommended CFM per linear foot and overhangs for the above cooking loads per models are found in the following pages.**

**Example:** A SC model wall style hood with a light load (450° F cooking surface temperature) is 258 CFM per linear foot exhaust and 207 CFM supply with a 6" side overhang. If the equipment is 12' in length + a 6" overhang for each side = a 13' hood x 207 CFM per linear foot supply = 2691 CFM of supply air. Add a 10% safety factor for actual field condition; this will give you 3699 CFM of exhaust air. Exhaust and supply static pressures, collar sizes and collar velocities are found on the collar sizing pages 40-44.

## Hood Selection Procedures



**Step No. 1:** Determine the overall length, depth and location of cooking bank.

**Step No. 2:** Determine the type of appliances: griddles, fryers, broilers, ovens, etc.

**Step No. 3:** Select basic type:

Wall (cooking bank is against wall), Island (cooking bank is in middle of room); Double Island (cooking banks are back to back)

**Step No. 4:** Select style:

(Exhaust-only hoods) This hood is generally used in a non air-conditioned kitchen.

(Compensating hood) The volume and direction of the make-up air can be adjusted at the hood. The make-up air may require tempering.

(Self-compensating) This hood requires no tempering of make-up air. See hood styles section for specific hood style and model #.

**Step No. 5:** Select size:

The overhead canopy-type hood should be sized to completely cover the equipment that it is designed to ventilate, plus an overhang of at least 6" to 12" on all sides of equipment not immediately adjacent to walls or other construction extending above the cooking surface. Island-type hoods over one cooking bank should have 10" to 12" overhang at back of cooking bank. See hood styles section for standard hood sizes. Some local fire codes will require 12" overhang on any hood, and some health codes require a minimum distance from walls or between banks of cooking equipment of 6" to 12" to provide for cleaning. Check your local codes.

**Step No. 6:** Select volume of exhaust air:

Most codes require exhaust air selection based on type of cooking appliances, unless it is a listed hood. NOTE: Larkin hoods have been tested and approved by ETL to capture vapors from cooking equipment at less than International Mechanical Code requires. Check air-flow data pages for specific models air-flow requirements.

**Step No. 7:** Select exhaust duct required:

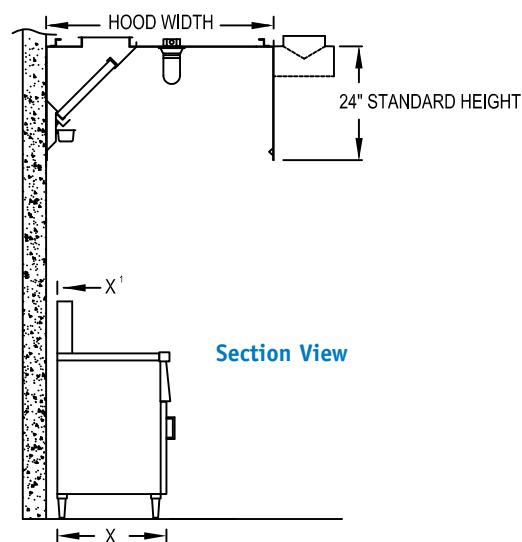
Larkin Industries recommends exhaust duct be sized between 1500-1800 FPM. NFPA requires a minimum velocity of at least 500 FPM. Hoods 10' or more in length may require two ducts. Keep duct size as square as possible. Consult your local codes for fire wrapping requirements.

**Step No. 8:** Exhaust and supply fans should be selected with adjustable pulleys so that air can be adjusted to arrive at a proper differential of exhaust and supply air. Fans should be selected according to model of hood selected and cooking loads. Generally an exhaust and supply differential of 70% to 95% is selected. Some codes require a set exhaust differential up to 100%. Consult your local codes.

## Design Statement

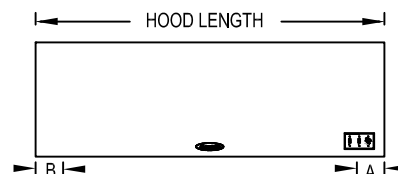
*There are many factors to consider when selecting the proper kitchen hood system, such as: type and amount of cooking equipment under the hood, restaurant HVAC system design, outside air requirement, ductwork sizes and length-of-duct run, state and local fire, health and building codes; so please check with the local codes and or a registered mechanical engineer in your area when determining the style and CFM requirements for a specific kitchen hood system installation.*

# Hood Sizing Guide

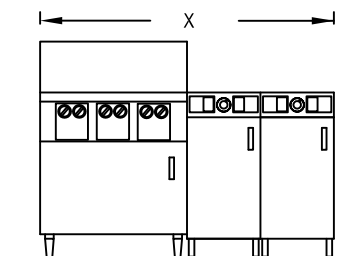


Section View

## Wall Type



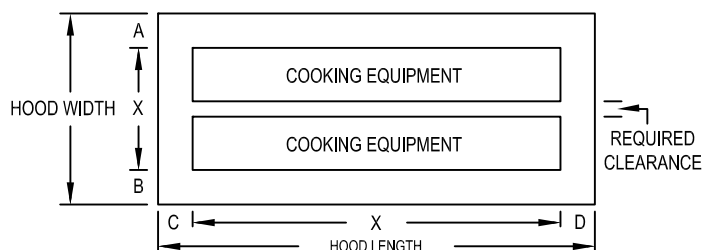
Front View



Hood Width = (depth of equipment) X + (equipment clearance) X<sup>i</sup> + Overhang = \_\_\_\_\_

Hood Length = (length of cooking equipment) X + Overhangs A + B = \_\_\_\_\_

## Double Island Type



Plain View

Hood Width = (depth of equipment) X + (required clearance) X<sup>i</sup> + Overhangs A + B = \_\_\_\_\_

Hood Length = (length of cooking equipment) X + Overhangs C + D = \_\_\_\_\_

**Note:** Single Island dimensions are determined same as Double Island.

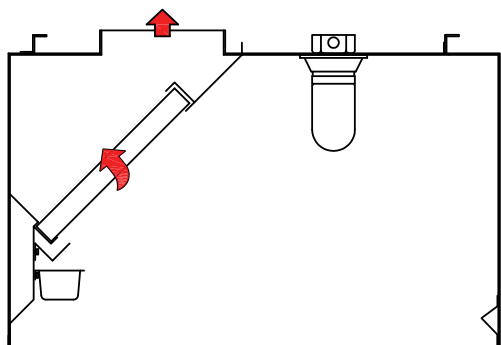
- The total amount of exhaust and supply CFM are determined by the hood length. The next pages provide data to select the quantity of exhaust and supply CFM for a particular hood model.
- Minimum overhangs per code are 6" front and 6" side overhang for wall hoods and 12" front and sides for island hoods. When high smoke and grease producing equipment is located on ends of hood, more overhang may be required or use end panels.
- For model SC, SCR, SS, SCRAC, SCRF, SCAC, Larkin Industries, Inc. recommends a 10" front and 8" side overhang for wall style and 20" front and 16" side overhang island at 600° cooking temperature.
- 78" A.F.F. is standard hanging height for all canopy hoods.

## Leading Exhaust Only Hood Models



### Model E0

*Exhaust only*



#### Standard Hood Widths

42", 48", 54", 60"

#### Standard Hood Lengths

4' through 16'

#### Standard Hood Heights

24" & 30"

#### Materials

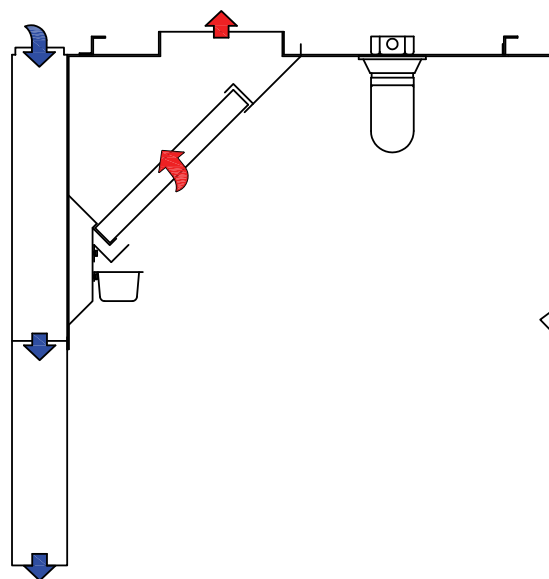
Type 430 & 304 Stainless Steel/Aluminized Steel

*Non listed custom sizes and a full line of options are available.*

The E0 hood is one of the most popular hoods in production today. It is a straight exhaust hood without "built-in make-up air" to compensate for exhausted air. It is a simple canopy style hood design that can handle any cooking load from light to heavy. The E0 is available in wall mount, Island "EOI", and Low ceiling "EOLC" configuration.

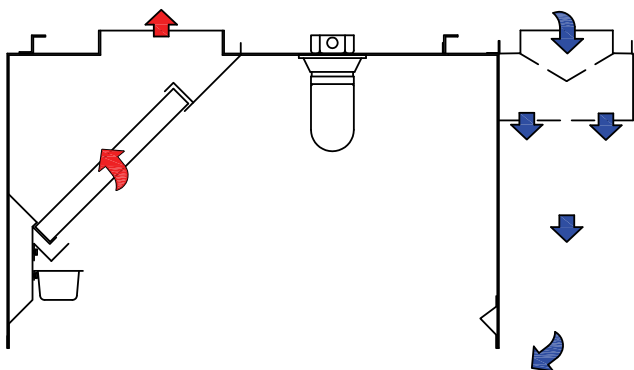
### Model EOBR

*Exhaust only back return plenum*



### Model EOFPSP

*Exhaust only front perforated supply plenum*



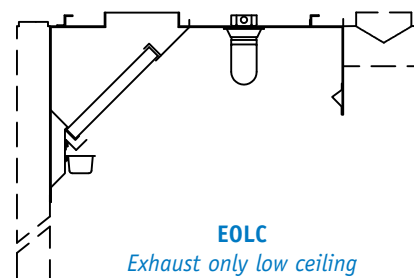
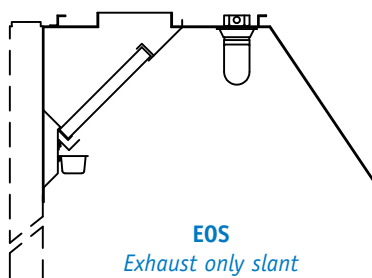
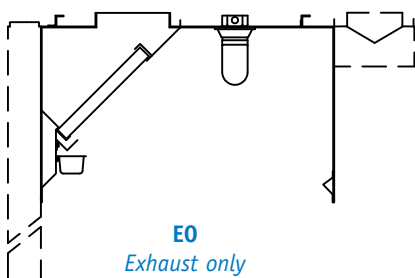
Combine one of Larkin's optional supply plenums with the stand alone E0 to create an integrated kitchen ventilation solution custom suited for any application. EOFPSP "front perforated supply plenum" and EOBR "back return plenum" can be used to introduce up to 90% tempered or un-tempered make-up air into the kitchen.



## Air Flow Data



### Exhaust Only Hood Models With Optional External Plenums



- Wall style hoods with a finished back require a 12" overhang front, back and sides.
- One-piece hoods are 4' through 16' in length. For hoods over 16', use two hoods end to end.
- "V" Bank island hood widths are 48" through 84"; for an island hood wider than 84", use a two-piece island hood (two wall hoods back to back).
- EOLC model ETL listed with 12" min. front.
- Suffix I denotes "V" bank one-piece island style hood. Example: EOI

|                                          | Temperature | Exhaust CFM<br>per linear. (Min) | Supply CFM<br>per linear ft. (Max) | Overhang<br>Front | Sides |
|------------------------------------------|-------------|----------------------------------|------------------------------------|-------------------|-------|
| <b>WALL STYLE</b>                        | 450°F       | 200                              | 180 (90%)                          | 6"                | 6"    |
|                                          | 600°F       | 300                              | 270 (90%)                          | 6"                | 6"    |
|                                          | 700°F       | 300                              | 270 (90%)                          | 6"                | 6"    |
| <b>(LOW CEILING)</b>                     | 600°F       | 375                              | 337 (90%)                          | 6"                | 6"    |
|                                          | 700°F       | 375                              | 337 (90%)                          | 6"                | 6"    |
| <b>1-PIECE ISLAND<br/>("V") BANK</b>     | 450°F       | 350                              | 315 (90%)                          | 12"               | 12"   |
|                                          | 600°F       | 525                              | 472 (90%)                          | 12"               | 12"   |
|                                          | 700°F       | 525                              | 472 (90%)                          | 12"               | 12"   |
| <b>2-PIECE ISLAND<br/>(2 WALL HOODS)</b> | 450°F       | 400                              | 360 (90%)                          | 12"               | 12"   |
|                                          | 600°F       | 600                              | 540 (90%)                          | 12"               | 12"   |
|                                          | 700°F       | 600                              | 540 (90%)                          | 12"               | 12"   |

- 6" overhangs are the minimum allowed by code. Larkin Industries, Inc. recommends more overhang or end pannels for Island hoods and when high smoke and grease producing equipment is located on the ends of hood.
- Supply air is introduced through an optional back return plenum that terminates below the top of cooking equipment or a front perforated supply plenum discharging down the front of the hood.
- Up to 90% supply air can be introduced through a back return or front perforated supply plenum. Lower supply CFM are recommended on gas equipment to prevent the disturbance of the pilot lights when using the back return plenum.
- Tempered make-up air may be required in some climates, if tempered make-up air is introduced into the kitchen. Refer to pg 64 in your Larkin catalog.
- After collar sizes and static pressures are determined (see static pressure and collar sizing charts pages 40-44). Refer to pages 49-68 for selecting proper fan sizes (CFM and static pressure required).



## Options Available On Exhaust Only Hood Models



### Options:

- 304 or 430 Stainless Steel
- Aluminized Steel
- All Stainless Steel Construction
- Finished Backs
- Standoffs 3", 4", 6"
- Insulated Standoffs
- Back Returns and Front Perforated Supply Plenums
- Slant Fronts
- Ceiling Skirts
- Wall Splash Panels and Trim
- End Panels
- 1,2,3, and 4 Switch Panels
- Auto Fan Control System
- ETL Listed Electrical Control Boxes 115v, 230v, 460v  
1 and 3-phase (hood mounted only)
- ANSUL Fire Suppression
- Fire Cabinets
- Listed Fire Damper in Exhaust Collar
- ETL Listed Low Ceiling Hoods
- Recessed Incandescent Lights
- Fluorescent Lights
- Stainless Steel Filters
- Epoxy-coated Filters
- Teflon-coated Filters
- High-Velocity Cartridge Filters

*Full Descriptions and Drawings of all available options for all hood models are located after the design section of your Larkin catalog. Pg 70*

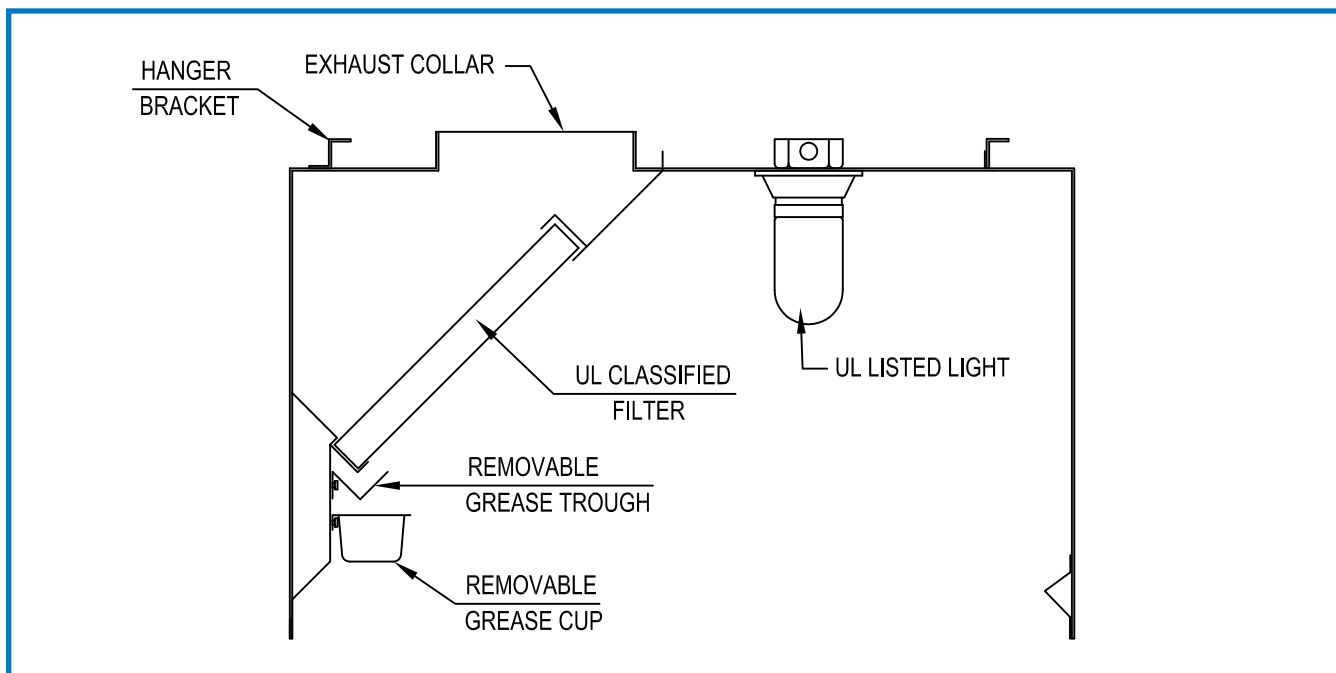
## Larkin Industries, Inc.

114 David Green Road  
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Phone: 1-205-987-1535  
Fax: 1-205-987-0583  
Toll Free: 1-800-322-4036  
E-mail: sales@larkinhoods.com  
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### Model E0

Exhaust only



### General Specifications

The hood shall be straight exhaust type.

The hood shall be fabricated from Type 304, 430 stainless steel, or aluminized steel. 18 & 20 gauge with #3 or #4 polish on all exposed surfaces, and 18 gauge aluminized steel in concealed areas.

Hood shall be of double wall construction with seams and joints welded and sealed liquid tight, to conform to NFPA 96. Corners of hood shall be trimmed to give the hood a straight, crisp appearance free of warps. Where two hoods are joined together for a single application, a cover strip is to be furnished for field installation. A factory mounted alignment and connection kit shall be provided. Heavy gauge hanging brackets for hood shall be on each corner (more brackets as needed for longer hoods). Aluminum, stainless steel, or teflon coated grease filters shall be UL classified, non-clogging, baffle type and shall be easily removable for cleaning purposes.

All exhaust plenum surfaces and filters shall drain into a removable grease trough and be conveyed to a removable grease container. Incandescent or fluorescent lights shall be installed at approximately 3' intervals and shall be UL listed for use in exhaust hoods. Lights shall be completely pre-wired to a junction box located on top of the hood.

Exhaust collars shall be aluminized steel and have a 3/4" welding flange for easy field connection. Control panels shall include on/off toggle type switches for the control of hood lights and fans. Each fan switch shall have red pilot lights in handle for positive function status identification. Panel shall have stainless steel face plate with each switch identified. The hood must be constructed in accordance with N.F.P.A., bear the NSF Seal of Approval, and be ETL Listed. Hood to be manufactured by LARKIN INDUSTRIES, INC. 1-800-322-4036

*NOTE: The above illustration and specifications are general and do not necessarily represent the specific options that were quoted specifically, or purchased. See your submittal data sheet or written quotation for specific materials, option, and accessories for your kitchen exhaust hood system.*

*Due to continuing research, Larkin Industries, Inc. reserves the right to change specifications without notice.*

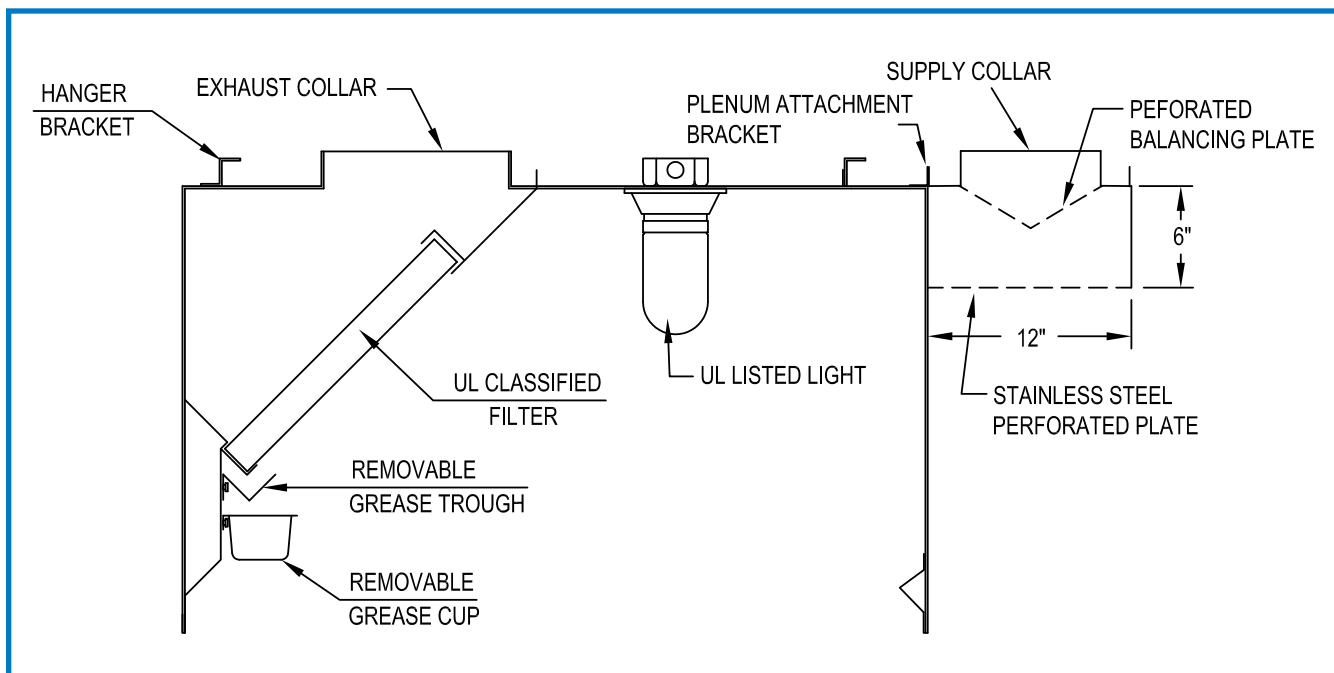
## Larkin Industries, Inc.

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### Model EOFPSP

*Exhaust only, front perforated supply plenum*



### General Specifications

The hood shall be straight exhaust type. Make up air shall be introduced through an external make-up air plenum. Plenum to be mounted on front of hood by attachment brackets and supported with ceiling wire or 1/4" threaded rod. Make up air shall be introduced through a perforated panel on the bottom of the front plenum with an integral airflow balancing plate that provides even air distribution throughout the plenum. Plenum shall be fabricated from type 430 or 304 stainless steel. Mounting brackets shall be attached to hood. Supply air collar shall be aluminized steel.

The hood shall be fabricated from Type 304, 430 stainless steel, or aluminized steel. 18 & 20 gauge with #3 or #4 polish on all exposed surfaces, and 18 gauge aluminized steel concealed areas.

Hood shall be of double wall construction with seams and joints welded and sealed liquid tight, to conform to NFPA 96. Corners of hood shall be trimmed to give the hood a straight, crisp appearance free of warps. Where two hoods are joined together for a single application, a cover strip is to be furnished for field installation. A factory mounted alignment and connection kit shall be provided heavy gauge hanging brackets for hood shall be on each corner (more brackets as need for longer hoods). Aluminum, stainless steel, or teflon coated grease filters shall be UL classified, non-clogging, baffle type and shall be easily removable for cleaning purposes.

All exhaust plenum surfaces and filters shall drain into a removable grease trough and be conveyed to a removable grease container. Incandescent or fluorescent lights shall be installed at approximately 3' intervals and shall be UL listed for use in exhaust hoods. Lights shall be completely pre-wired to a junction box located on top of the hood.

Exhaust collars shall be aluminized steel and have a 3/4" welding flange for easy field connection. Control panels shall include on/off toggle type switches for the control of hood lights and fans. Each fan switch shall have red pilot lights in handle for positive function status identification. Panel shall have stainless steel face plate with each switch identified. The hood must be constructed in accordance with N.F.P.A., bear the NSF Seal of Approval, and be ETL Listed. Hood to be manufactured by LARKIN INDUSTRIES, INC. 1-800-322-4036

*NOTE: The above illustration and specifications are general and do not necessarily represent the specific options that were quoted specifically, or purchased. See your submittal data sheet or written quotation for specific materials, option, and accessories for your kitchen exhaust hood system.*

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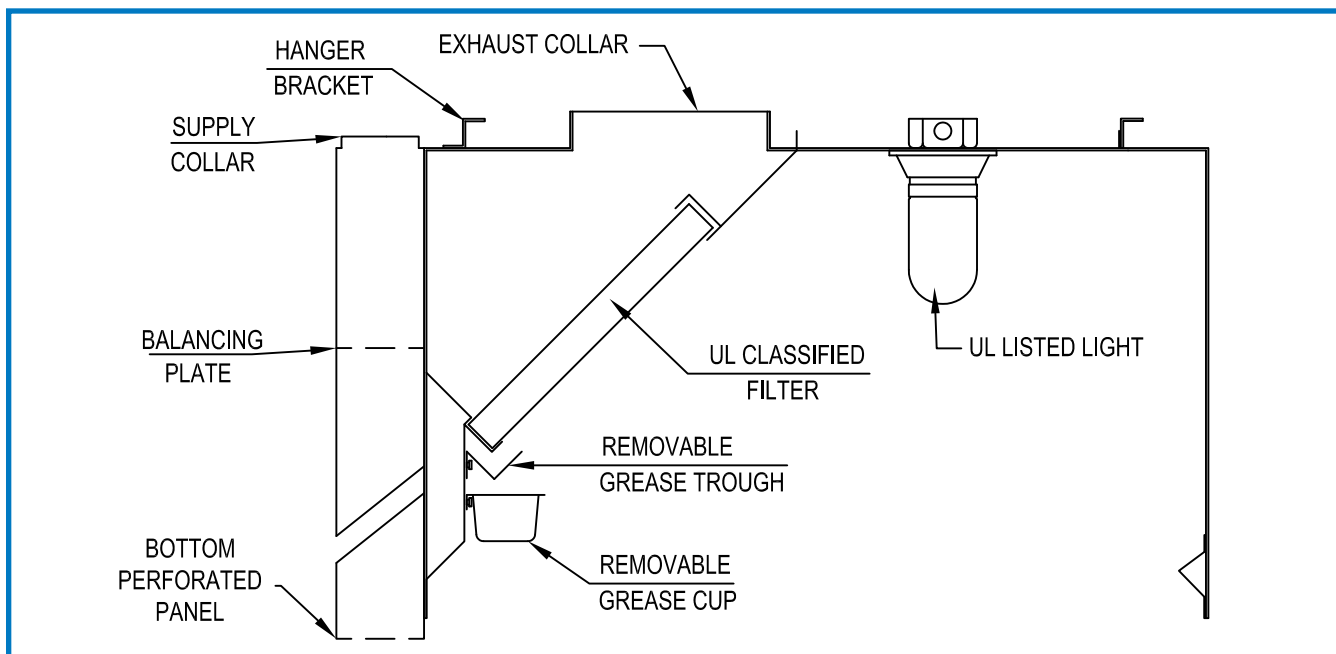
## Larkin Industries, Inc.

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### Model EOBR

*Exhaust only, back return plenum*



### General Specifications

The hood shall be straight exhaust type. Make-up air shall be introduced through an external back return make-up air plenum. Plenum is to be field mounted to the wall at the back of the hood. The back return plenum shall be fabricated from polished type 430 or 304 stainless steel on all exposed surfaces and aluminized steel in concealed areas. The plenum shall be lined with 1" thick 3lb density foil backed insulation with a flame spread rating of 25 or less as tested by UL 723 to impede condensation from forming. Plenum shall contain a balancing plate for even air distribution. Make up air shall be introduced through a perforated panel located on the bottom of the plenum. Aluminized steel supply air collars are provided. Plenums 4' through 10' in length will be in one section. Plenums over 10' in length will be in two sections.

The hood shall be fabricated from Type 304, 430 stainless steel, or aluminized steel. 18 & 20 gauge with #3 or #4 polish on all exposed surfaces, and 18 gauge aluminized steel in concealed areas.

Hood shall be of double wall construction with seams and joints welded and sealed liquid tight, to conform to NFPA 96. Corners of hood shall be trimmed to give the hood a straight, crisp appearance free of warps. Where two hoods are joined together for a single application, a cover strip is to be furnished for field installation. A factory mounted alignment and connection kit shall be provided. Heavy gauge hanging brackets for hood shall be on each corner (more brackets as need for longer hoods). Aluminum,

stainless steel, or teflon coated grease filters shall be UL classified, non-clogging, baffle type and shall be easily removable for cleaning purposes.

All exhaust plenum surfaces and filters shall drain into a removable grease trough and be conveyed to a removable grease container. Incandescent or fluorescent lights shall be installed at approximately 3' intervals and shall be UL listed for use in exhaust hoods. Lights shall be completely pre-wired to a junction box located on top of the hood.

Exhaust collars shall be aluminized steel and have a 3/4" welding flange for easy field connection. Control panels shall include on/off toggle type switches for the control of hood lights and fans. Each fan switch shall have red pilot lights in handle for positive function status identification. Panel shall have stainless steel face plate with each switch identified. The hood must be constructed in accordance with N.F.P.A., bear the NSF Seal of Approval, and be ETL Listed. Hood to be manufactured by LARKIN INDUSTRIES, INC. 1-800-322-4036

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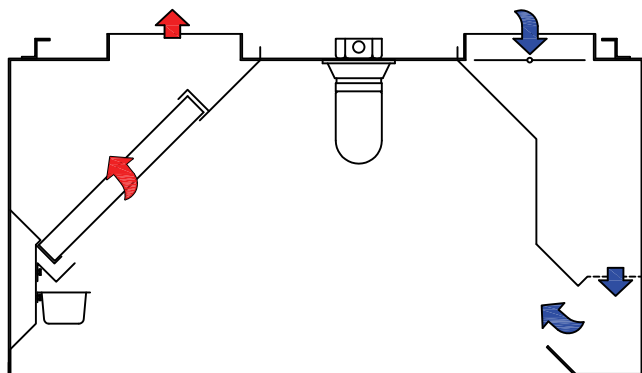
*Due to continuing research, Larkin Industries, Inc. reserves the right to change specifications without notice.*

## Leading Self Compensating Hood Models



### Model SC

*Short circuit*



#### Standard Hood Widths

48", 54", 60"

#### Standard Hood Lengths

4' through 16'

#### Standard Hood Heights

24" & 30"

#### Materials

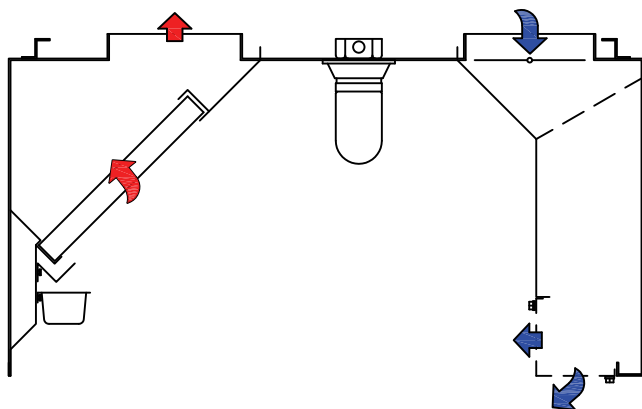
Type 430 & 304 Stainless Steel/Aluminized Steel

*Non listed custom sizes and a full line of options are available.*

The Short Circuit Hood "SC" is a self-compensating kitchen hood design widely used in most kitchen applications from light to medium cooking loads. It is a very popular design for many reasons. It can introduce up to 80% make-up air directly back into the hood through a full-length self-balancing internal slot. This reduces the amount of tempered air needed in colder climates and may eliminate the need for tempered make-up air altogether, which will conserve energy and save money.

### Model SS

*Smoke sucker*



#### Standard Hood Widths

48", 54", 60"

#### Standard Hood Lengths

4' through 16'

#### Standard Hood Heights

24" & 30"

#### Materials

Type 430 & 304 Stainless Steel/Aluminized Steel

*Non listed custom sizes & a full line of options are available.*

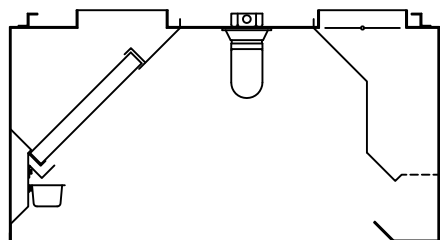
The Smoke Sucker Hood "SS" is a type of short circuit hood. It is differentiated by a perforated panel along the bottom and inside edge of the hood. This panel introduces up to 80% of the tempered or un-tempered make-up air directly inside the hood as well as down from the front edge. This hood's design reduces the amount of tempered make-up air needed in colder climates. The "SS" can be used in a variety of different applications from light to medium cooking loads.



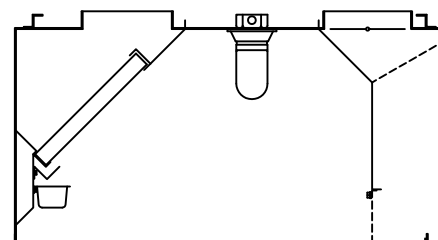
## Air Flow Data



### Self Compensating "Short Circuit" Type Hood Models



**SC**  
*Short Circuit*



**SS**  
*Smoke Sucker*

- Wall style hoods with a finished back are not recommended with these type hoods unless the load is very light (steamers, ovens, kettles, etc).
- One-piece hoods are 4' through 16' in length. For hoods over 16', use two hoods end to end.
- "V" Bank Island-hood widths are 60" through 84"; for an island hood wider than 84", use a two-piece island hood (two wall hoods back to back).
- Suffix I denotes "V" bank one-piece island style hood. Example: SCI

|                                          | Temperature | Exhaust CFM<br>per linear. (Min) | Supply CFM<br>per linear ft. (Max) | Overhang<br>Front | Overhang<br>Sides |
|------------------------------------------|-------------|----------------------------------|------------------------------------|-------------------|-------------------|
| <b>WALL STYLE</b>                        | 450°F       | 258                              | 207 (80%)                          | 6"                | 6"                |
|                                          | 600°F       | 354                              | 237 (67%)                          | 10"               | 8"                |
| <b>1-PIECE ISLAND ("V")<br/>BANK</b>     | 450°F       | 451                              | 362 (80%)                          | 12"               | 12"               |
|                                          | 600°F       | 619                              | 417 (67%)                          | 20"               | 16"               |
| <b>2-PIECE ISLAND<br/>(2 WALL HOODS)</b> | 450°F       | 516                              | 414 (80%)                          | 12"               | 12"               |
|                                          | 600°F       | 708                              | 476 (67%)                          | 20"               | 16"               |

*\* Low ceiling models and air flow data can be found on pg 31*

- 6" overhangs are the minimum allowed by code. Larkin Industries, Inc. recommends more overhang or end pannels for Island hoods and when high smoke and grease producing equipment is located on the ends of hood.
- After collar sizes and static pressures are determined (see static pressure and collar sizing charts pages 40-44). Refer to pages 49-68 for selecting proper fan sizes (CFM and static pressure required).
- Short Circuit Type Hoods are not recommended for heavy loads.
- More exhaust and or less supply CFM may be needed depending on actual field conditions.
- Consult local codes, some areas may have restrictions on short circuit type hoods.



## Options Available On Short Circuit Hood Models



### Options:

- 304 or 430 Stainless Steel
- Aluminized Steel
- All Stainless Steel Construction
- Finished Backs
- Standoffs 3", 4", 6"
- Insulated Standoffs
- Back Return Plenums
- ETL Listed Concentric Duct Plenums Available on 32" Tall Models
- Ceiling Skirts
- Wall Splash Panels and Trim
- End Panels
- 1,2,3, and 4 Switch Panels
- Auto Fan Control System
- ETL Listed Electrical Control Boxes 115v, 230v, 460v  
1 and 3-phase (hood mounted only)
- ANSUL Fire Suppression
- Fire Cabinets
- Volume Damper
- Listed Fire Damper in Exhaust Collar
- ETL Listed Low Ceiling Hoods
- Recessed Incandescent Lights
- Fluorescent Lights
- Stainless Steel Filters
- Epoxy-coated Filters
- Teflon-coated Filters
- High-Velocity Cartridge Filters

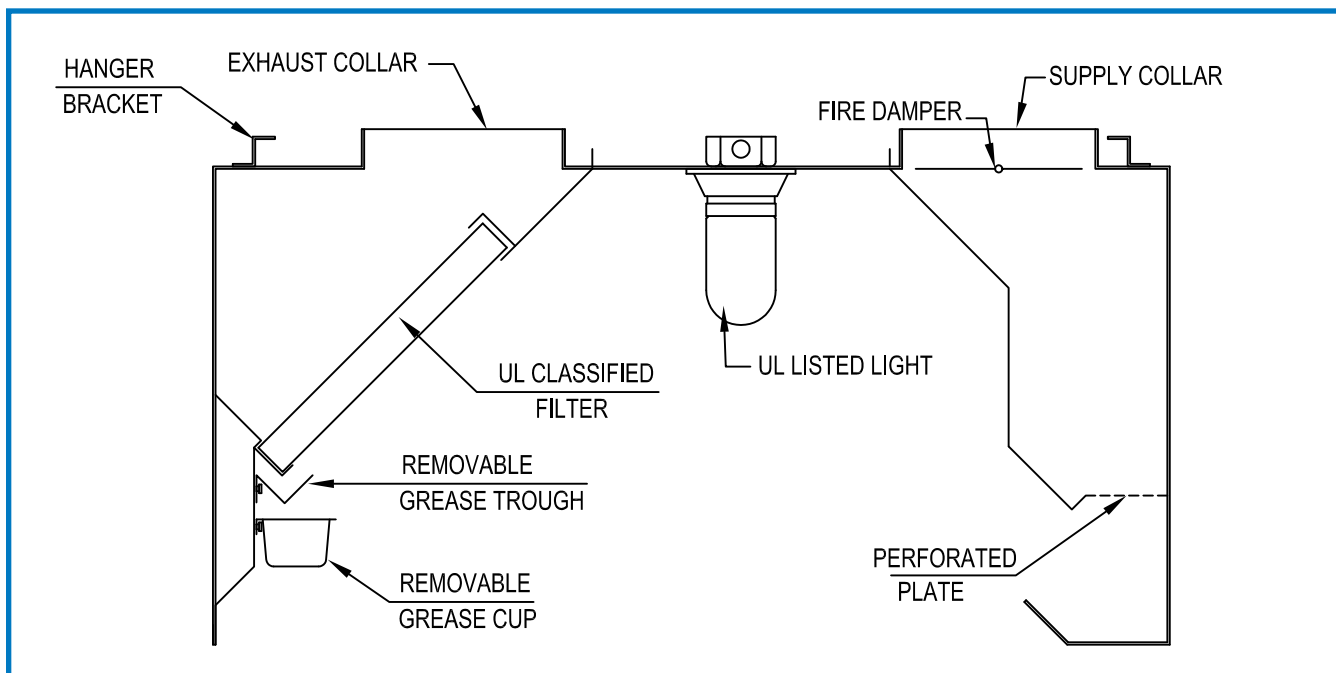
*Full Descriptions and Drawings of all available options for all hood models are located after the design section of your Larkin catalog. Pg 70*

## Larkin Industries, Inc.

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### Model SC Short Circuit



### General Specifications

Hood shall be self-compensating type introducing make-up air inside the hood through a full length, self-balancing slot.

The hood shall be fabricated from Type 304, 430 stainless steel, or aluminized steel. 18 & 20 gauge with #3 or #4 polish on all exposed surfaces, and 18 gauge aluminized steel in concealed areas. The supply plenum shall be lined with 1" thick 3lb density foil backed insulation with a flame spread rating of 25 or less as tested by UL 723 to impede condensation from forming on hood surfaces. Supply air plenum must contain a balancing plate for even distribution of air from one end of the supply slot to the other.

Hood shall be of double wall construction with seams and joints welded and sealed liquid tight, to conform to NFPA 96. Corners of hood shall be trimmed to give the hood a straight, crisp appearance free of warps. Where two hoods are joined together for a single application, a cover strip is to be furnished for field installation. A factory mounted alignment and connection kit shall be provided. Heavy gauge hanging brackets for hood shall be on each corner (more brackets as need for longer hoods). Aluminum, stainless steel, or teflon coated grease filters shall be UL classified, non-clogging, baffle type and shall be easily removable for cleaning purposes.

All exhaust plenum surfaces and filters shall drain into a removable grease trough and be conveyed to a removable grease container. Incandescent or fluorescent lights shall be installed at approximately 3' intervals and shall be UL listed for use in exhaust hoods. Lights shall be completely pre-wired to a junction box located on top of the hood.

Exhaust collars shall be aluminized steel and have a 3/4" welding flange for easy field connection. Supply air collar shall be galvanized steel and include a UL Listed fire damper. Control panels shall include on/off toggle type switches for the control of hood lights and fans. Each fan switch shall have red pilot lights in handle for positive function status identification. Panel shall have stainless steel face plate with each switch identified. The hood must be constructed in accordance with N.F.P.A., bear the NSF Seal of Approval, and be ETL Listed. Hood to be manufactured by LARKIN INDUSTRIES, INC. 1-800-322-4036

*NOTE: The above illustration and specifications are general and do not necessarily represent the specific options that were quoted specifically, or purchased. See your submittal data sheet or written quotation for specific materials, option, and accessories for your kitchen exhaust hood system.*

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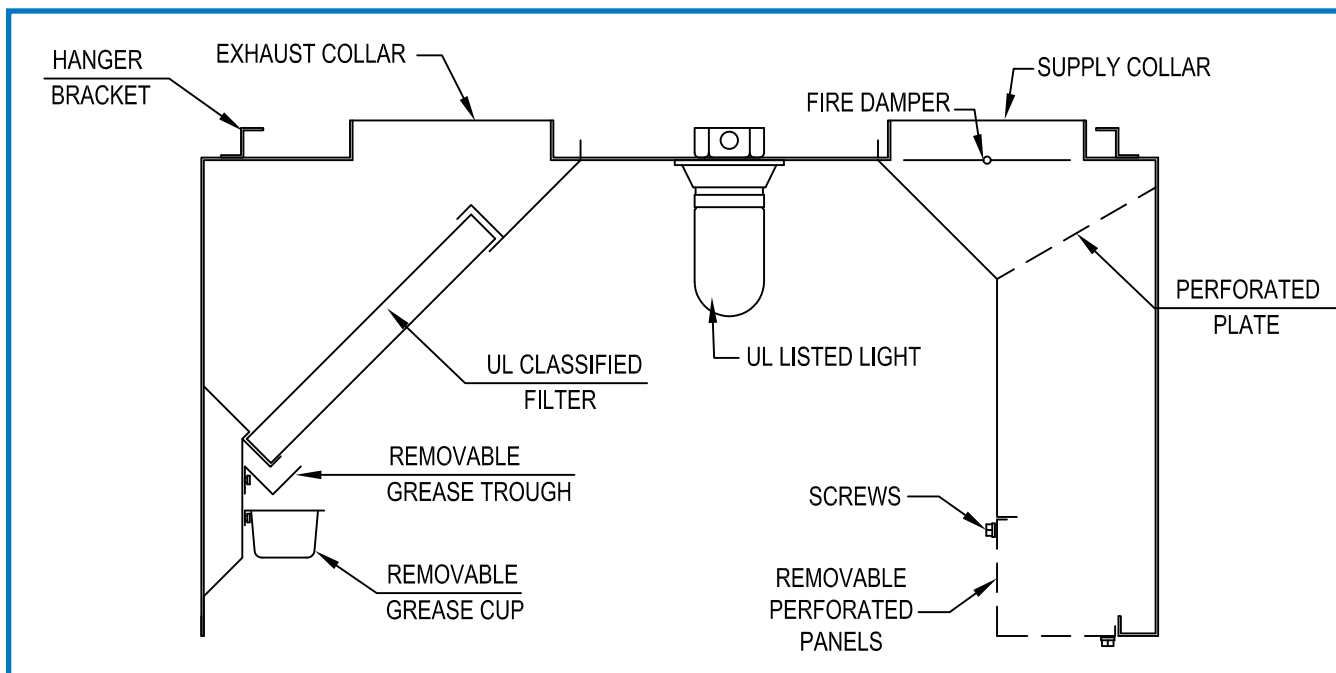
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### Model SS

Smoke sucker



### General Specifications

Hood shall be self-compensating type introducing make-up air down and inside of hood through a perforated panel along the entire bottom and inside front edge of hood.

The hood shall be fabricated from Type 304, 430 stainless steel, or aluminized steel. 18 & 20 gauge with #3 or #4 polish on all exposed surfaces, and 18 gauge aluminized steel in concealed areas. The supply plenum shall be lined with 1" thick 3lb density foil backed insulation with a flame spread rating of 25 or less as tested by UL 723 to impede condensation from forming on hood surfaces. Supply air plenum must contain a balancing plate for even distribution of make-up air.

Hood shall be of double wall construction with seams and joints welded and sealed liquid tight, to conform to NFPA 96. Corners of hood shall be trimmed to give the hood a straight, crisp appearance free of warps. Where two hoods are joined together for a single application, a cover strip is to be furnished for field installation. A factory mounted alignment and connection kit shall be provided. Heavy gauge hanging brackets for hood shall be on each corner (more brackets as need for longer hoods). Aluminum, stainless steel, or teflon coated grease filters shall be UL classified, non-clogging, baffle type and shall be easily removable for cleaning purposes.

All exhaust plenum surfaces and filters shall drain into a removable grease trough and be conveyed to a removable grease container. Incandescent or fluorescent lights shall be installed at approximately 3' intervals and shall be UL listed for use in exhaust hoods. Lights shall be completely pre-wired to a junction box located on top of the hood.

Exhaust collars shall be aluminized steel and have a 3/4" welding flange for easy field connection. Supply air collar shall be galvanized steel and include a UL Listed fire damper. Control panels shall include on/off toggle type switches for the control of hood lights and fans. Each fan switch shall have red pilot lights in handle for positive function status identification. Panel shall have stainless steel face plate with each switch identified. The hood must be constructed in accordance with N.F.P.A., bear the NSF Seal of Approval, and be ETL Listed. Hood to be manufactured by LARKIN INDUSTRIES, INC. 1-800-322-4036

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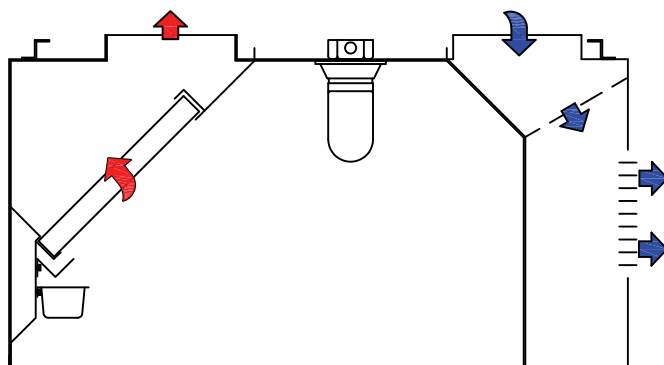
*Due to continuing research, Larkin Industries, Inc. reserves the right to change specifications without notice.*

## Leading Compensating Hood Models



### Model RF

*Register front*



#### Standard Hood Widths

48", 54", 60"

#### Standard Hood Lengths

4' through 16'

#### Standard Hood Heights

24" & 30"

#### Materials

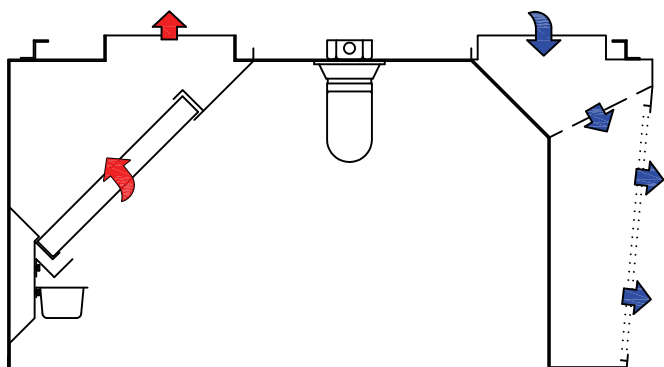
Type 430 & 304 Stainless Steel/Aluminized Steel

*Non listed custom sizes and a full line of options are available.*

The Register Front Hood "RF" is a compensating kitchen hood that introduces up to 90% of the make-up air directly into the kitchen through front registers mounted in the face of the hood. Tempered make-up air may be required in colder climates. This hood can be used for almost any kitchen application from light to heavy cooking loads.

### Model LF

*Lazy flow*



#### Standard Hood Widths

50", 56", 62"

#### Standard Hood Lengths

4' through 16'

#### Standard Hood Heights

24" & 30"

#### Materials

Type 430 & 304 Stainless Steel/Aluminized Steel

*Non listed custom sizes & a full line of options are available.*

The Lazy Flow Hood "LF" is a compensating hood model similar to the register front model. This hood model introduces make up air through removable perforated panels on the face of the hood. This Hood design offers several advantages over the traditional register front model:

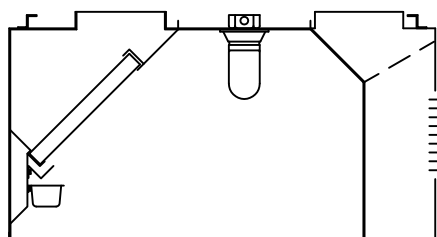
1. The make-up air is supplied at a lower velocity than the register front hoods, ensuring proper volume control.
2. The make-up air is supplied in a manner that will not interfere with cooking operations below the hood
3. The Lazy Flow can operate at a higher make-up air to exhaust ratio than self-compensating hood designs allowing up to 90% make-up air to be introduced.

Make-up air may need to be tempered in colder climates. This hood can be used in any kitchen application from light to heavy cooking requirements and is sure to add a distinctive look to any professional kitchen.

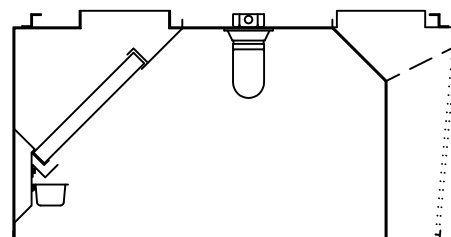
## Air Flow Data



### Compensating Type Hood Models



**RF**  
*Register Front*



**LF**  
*Lazy Flow*

- Wall style hoods with a finished back require a 12" overhang, front, back and sides.
- One-piece hoods are 4' through 16' in length. For hoods over 16', use two hoods end to end.
- "V" Bank Island-hood widths are 60" through 84"; for an island hood wider than 84", use a two-piece island hood (two wall hoods back to back).
- Suffix I denotes "V" bank one-piece island style hood. Example: RFI
- Suffix ED denotes exhaust damper in the exhaust collar. Example: RFED

|                                          | Temperature | Exhaust CFM<br>per linear. (Min) | Supply CFM<br>per linear ft. (Max) | Overhang<br>Front | Overhang<br>Sides |
|------------------------------------------|-------------|----------------------------------|------------------------------------|-------------------|-------------------|
| <b>WALL STYLE</b>                        | 450°F       | 252                              | 227 (90%)                          | 6"                | 6"                |
|                                          | 600°F       | 332                              | 299 (90%)                          | 6"                | 6"                |
|                                          | 700°F       | 332                              | 299 (90%)                          | 6"                | 6"                |
| <b>1-PIECE ISLAND ("V")<br/>BANK</b>     | 450°F       | 441                              | 397 (90%)                          | 12"               | 12"               |
|                                          | 600°F       | 581                              | 523 (90%)                          | 12"               | 12"               |
|                                          | 700°F       | 581                              | 523 (90%)                          | 12"               | 12"               |
| <b>2-PIECE ISLAND<br/>(2 WALL HOODS)</b> | 450°F       | 504                              | 454 (90%)                          | 12"               | 12"               |
|                                          | 600°F       | 664                              | 598 (90%)                          | 12"               | 12"               |
|                                          | 700°F       | 664                              | 598 (90%)                          | 12"               | 12"               |

\* Low ceiling models and air flow data can be found on pg 31

- 6" overhangs are the minimum allowed by code. Larkin Industries, Inc. recommends more overhang or end pannels for Island hoods and when high smoke and grease producing equipment is located on the ends of hood.
- Tempered make-up air may be required for these models. Refer to page 64 in your Larkin catalog.
- After collar sizes and static pressures are determined (see static pressure and collar sizing chart pages 40-44). Refer to pages 49-68 for selecting proper fan sizes (CFM static pressure required).



## Options Available On Front Discharge Hood Models



### Options:

- 304 or 430 Stainless Steel
- Aluminized Steel
- All Stainless Steel Construction
- Finished Backs
- Standoffs 3", 4", 6"
- Insulated Standoffs
- Full Insulated Plenums
- ETL Listed Concentric Duct Plenums Available on 32" Tall Models
- Ceiling Skirts
- Wall Splash Panels and Trim
- End Panels
- 1,2,3, and 4 Switch Panels
- Auto Fan Control System
- ETL Listed Electrical Control Boxes 115v, 230v, 460v  
1 and 3-phase (hood mounted only)
- ANSUL Fire Suppression
- Fire Cabinets
- Listed Fire Damper in Exhaust Collar
- Volume Damper
- ETL Listed Low Ceiling Hoods
- Recessed Incandescent Lights
- Fluorescent Lights
- Stainless Steel Filters
- Epoxy-coated Filters
- Teflon-coated Filters
- High-Velocity Cartridge Filters

*Full Descriptions and Drawings of all available options for all hood models are located after the design section of your Larkin catalog. Pg 70*



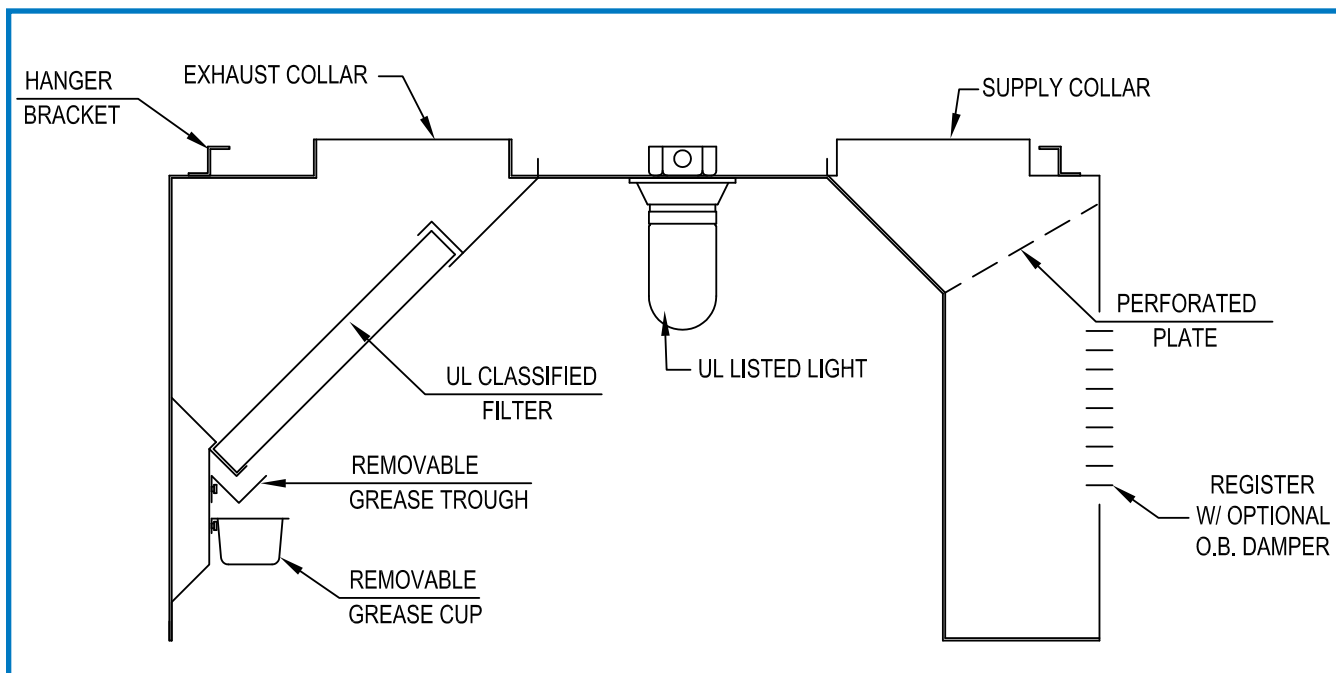
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### Model RF

Register front



### General Specifications

Hood shall be of compensating type introducing make-up through face registers.

Registers shall be of double deflection type with opposed blade dampers. Each blade shall be individually adjustable. Register frame and blades shall be 6063 extruded aluminum alloy with 200-R1 satin anodized finish.

The hood shall be fabricated from Type 304, 430 stainless steel, or aluminized steel. 18 & 20 gauge with #3 or #4 polish on all exposed surfaces, and 18 gauge aluminized steel in concealed areas. The supply plenum shall be lined with 1" thick 3lb density foil backed insulation, with a flame spread rating of 25 or less as tested by UL 723 to impede condensation from forming on hood surfaces. Supply air plenum must contain a balancing plate for even distribution of make-up air.

Hood shall be of double wall construction with seams and joints welded and sealed liquid tight, to conform to NFPA 96. Corners of hood shall be trimmed to give the hood a straight, crisp appearance free of warps. Where two hoods are joined together for a single application, a cover strip is to be furnished for field installation. A factory mounted alignment and connection kit shall be provided. Heavy gauge hanging brackets for hood shall be on each corner (more brackets as need for longer hoods). Aluminum, stainless steel, or teflon coated grease filters shall be UL classified, non-clogging, baffle type and shall be easily removable for cleaning purposes.

All exhaust plenum surfaces and filters shall drain into a removable grease trough and be conveyed to a removable grease container. Incandescent or fluorescent lights shall be installed at approximately 3' intervals and shall be UL listed for use in exhaust hoods. Lights shall be completely pre-wired to a junction box located on top of the hood.

Exhaust collars shall be aluminized steel and have a 3/4" welding flange for easy field connection. Supply air collar shall be galvanized steel. Control panels shall include on/off toggle type switches for the control of hood lights and fans. Each fan switch shall have red pilot lights in handle for positive function status identification. Panel shall have stainless steel face plate with each switch identified. The hood must be constructed in accordance with N.F.P.A., bear the NSF Seal of Approval, and be ETL Listed. Hood to be manufactured by LARKIN INDUSTRIES, INC. 1-800-322-4036

*NOTE: The above illustration and specifications are general and do not necessarily represent the specific options that were quoted specifically, or purchased. See your submittal data sheet or written quotation for specific materials, option, and accessories for your kitchen exhaust hood system.*

*Due to continuing research, Larkin Industries, Inc. reserves the right to change specifications without notice.*

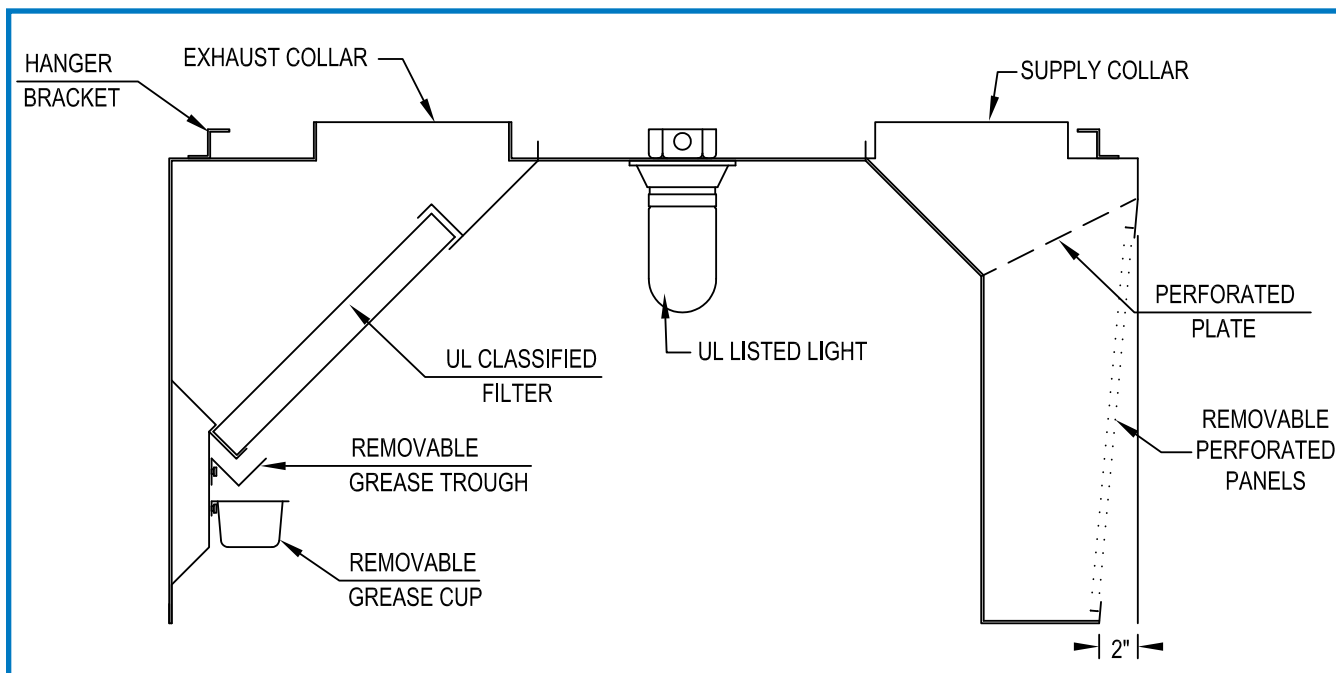
## Larkin Industries, Inc.

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Birmingham, AL 35244  
Phone: 1-205-987-1535  
Fax: 1-205-987-0583  
Toll Free: 1-800-322-4036  
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www.larkinhoods.com



### Model LF

*Lazy flow*



### General Specifications

Hood shall be self-compensating type introducing make-up air through full length, perforated panels on front of hood for an even and low velocity discharge into the kitchen. Perforated panels shall be completely removable without use of any tools for access to supply plenum and allow for easy cleaning of perforated panels.

The hood shall be fabricated from Type 304, 430 stainless steel, or aluminized steel. 18 & 20 gauge with #3 or #4 polish on all exposed surfaces, and 18 gauge aluminized steel in concealed areas. The supply plenum shall be lined with 1" thick 3lb density foil backed insulation with a flame spread rating of 25 or less as tested by UL 723 to impede condensation from forming on hood surfaces. Supply air plenum must contain a balancing plate for even distribution of make-up air.

Hood shall be of double wall construction with seams and joints welded and sealed liquid tight, to conform to NFPA 96. Corners of hood shall be trimmed to give the hood a straight, crisp appearance free of warps. Where two hoods are joined together for a single application, a cover strip is to be furnished for field installation. A factory mounted alignment and connection kit shall be provided. Heavy gauge hanging brackets for hood shall be on each corner (more brackets as need for longer hoods). Aluminum, stainless steel, or teflon coated grease filters shall be UL classified, non-clogging, baffle type and shall be easily removable for cleaning purposes.

All exhaust plenum surfaces and filters shall drain into a removable grease trough and be conveyed to a removable grease container. Incandescent or fluorescent lights shall be installed at approximately 3' intervals and shall be UL listed for use in exhaust hoods. Lights shall be completely pre-wired to a junction box located on top of the hood.

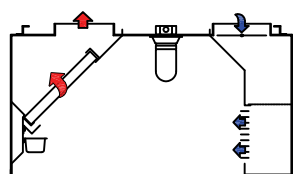
Exhaust collars shall be aluminized steel and have a 3/4" welding flange for easy field connection. Supply air collar shall be galvanized steel. Control panels shall include on/off toggle type switches for the control of hood lights and fans. Each fan switch shall have red pilot lights in handle for positive function status identification. Panel shall have stainless steel face plate with each switch identified. The hood must be constructed in accordance with N.F.P.A., bear the NSF Seal of Approval, and be ETL Listed. Hood to be manufactured by LARKIN INDUSTRIES, INC. 1-800-322-4036

*NOTE: The above illustration and specifications are general and do not necessarily represent the specific options that were quoted specifically, or purchased. See your submittal data sheet or written quotation for specific materials, option, and accessories for your kitchen exhaust hood system.*

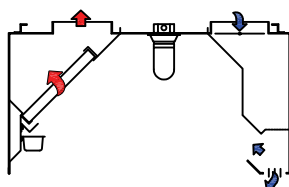
*Due to continuing research, Larkin Industries, Inc. reserves the right to change specifications without notice.*



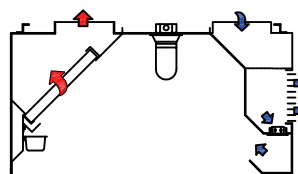
## Other Self Compensating "Short Circuit" Type Hood Models



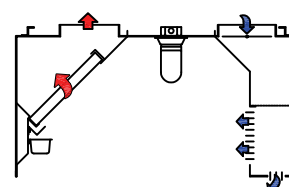
**SCR**  
Short circuit  
Register



**SCAC**  
Short circuit  
Air Curtain



**SCRF**  
Short circuit  
Register Front



**SCRAC**  
Short circuit  
Register  
Air Curtain

- Wall style hoods with a finished back are not recommended with these type hoods unless the load is very light (steamers, ovens, kettles, etc).
- One-piece hoods are 4' through 16' in length. For hoods over 16', use two hoods end to end.
- "V" Bank Island-hood widths are 60" through 84"; for an island hood wider than 84", use a two-piece island hood (two wall hoods back to back).
- Suffix I denotes "V" bank one-piece island style hood. Example: SCI

|                                          | Temperature | Exhaust CFM<br>per linear. (Min) | Supply CFM<br>per linear ft. (Max) | Overhang<br>Front | Overhang<br>Sides |
|------------------------------------------|-------------|----------------------------------|------------------------------------|-------------------|-------------------|
| <b>WALL STYLE</b>                        | 450°F       | 258                              | 207 (80%)                          | 6"                | 6"                |
|                                          | 600°F       | 354                              | 237 (67%)                          | 10"               | 8"                |
| <b>1-PIECE ISLAND<br/>("V") BANK</b>     | 450°F       | 451                              | 362 (80%)                          | 12"               | 12"               |
|                                          | 600°F       | 619                              | 417 (67%)                          | 20"               | 16"               |
| <b>2-PIECE ISLAND<br/>(2 WALL HOODS)</b> | 450°F       | 516                              | 414 (80%)                          | 12"               | 12"               |
|                                          | 600°F       | 708                              | 476 (67%)                          | 20"               | 16"               |

\* Low ceiling models and air flow data can be found on pg 31

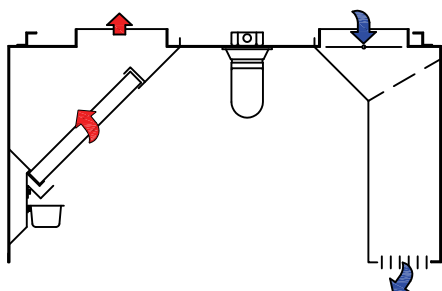
- 6" overhangs are the minimum allowed by code. Larkin Industries, Inc. recommends more overhang or end pannels for Island hoods and when high smoke and grease producing equipment is located on the ends of hood.
- After collar sizes and static pressures are determined (see static pressure and collar sizing charts pages 40-44). Refer to pages 49-68 for selecting proper fan sizes (CFM static pressure required).
- Short Circuit Type Hoods are not recommended for heavy loads.
- More exhaust and or less supply CFM may be needed depending on actual field conditions.
- Consult local codes, some areas may have restrictions on short circuit type hoods.



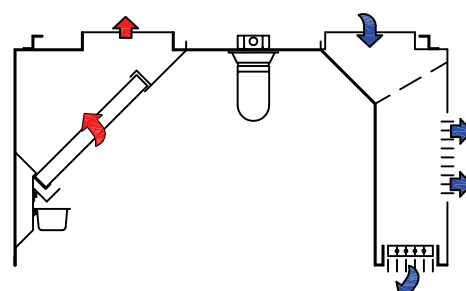
## Air Flow Data



### Other Compensating “Air Curtain” Type Hood Models



**AC**  
*Air Curtain*



**ACRF**  
*Air Curtain  
Register Front*

- Wall style hoods with a finished back require a 12" overhang, front, back and sides.
- One-piece hoods are 4' through 16' in length. For hoods over 16', use two hoods end to end.
- "V" Bank Island-hood widths are 60" through 84"; for an island hood wider than 84", use a two-piece island hood (two wall hoods back to back).
- Suffix I denotes "V" bank one-piece island style hood. Example: ACI
- Suffix ED denotes exhaust damper in the exhaust collar. Example: ACED

|                                          | Temperature | Exhaust CFM<br>per linear. (Min) | Supply CFM<br>per linear ft. (Max) | Overhang<br>Front | Overhang<br>Sides |
|------------------------------------------|-------------|----------------------------------|------------------------------------|-------------------|-------------------|
| <b>WALL STYLE</b>                        | 450°F       | 252                              | 204 (80%)                          | 6"                | 6"                |
|                                          | 600°F       | 332                              | 238 (71%)                          | 6"                | 6"                |
| <b>1-PIECE ISLAND<br/>("V") BANK</b>     | 450°F       | 441                              | 357 (80%)                          | 12"               | 12"               |
|                                          | 600°F       | 581                              | 416 (71%)                          | 12"               | 12"               |
| <b>2-PIECE ISLAND<br/>(2 WALL HOODS)</b> | 450°F       | 504                              | 408 (80%)                          | 12"               | 12"               |
|                                          | 600°F       | 664                              | 476 (71%)                          | 12"               | 12"               |

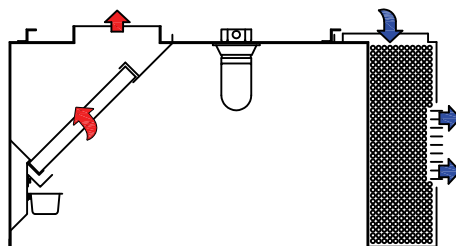
- 6" overhangs are the minimum allowed by code. Larkin Industries, Inc. recommends more overhang or end pannels for Island hoods and when high smoke and grease producing equipment located on the ends of hood.
- Air curtain hoods are not recommended for heavy loads.
- After collar sizes and static pressures are determined (see static pressure and collar sizing charts pages 40-44). Refer to pages 49-68 for selecting proper fan sizes (CFM static pressure required).
- More exhaust and or less supply CFM may be needed depending on actual field conditions.



## Air Flow Data



### Other Compensating “Front Discharge” Type Hood Models



**TF**  
Tri-Flow

- Wall style hoods with a finished back require a 12” overhang, front, back and sides.
- One-piece hoods are 4’ through 16’ in length. For hoods over 16’, use two hoods end to end.
- “V” Bank Island-hood widths are 60” through 84”; for an island hood wider than 84”, use a two-piece island hood (two wall hoods back to back).
- Suffix I denotes “V” bank one-piece island style hood. Example: TFI

|                                          | Temperature | Exhaust CFM<br>per linear. (Min) | Supply CFM<br>per linear ft. (Max) | Overhang<br>Front | Sides |
|------------------------------------------|-------------|----------------------------------|------------------------------------|-------------------|-------|
| <b>WALL STYLE</b>                        | 450°F       | 252                              | 227 (90%)                          | 6”                | 6”    |
|                                          | 600°F       | 332                              | 299 (90%)                          | 6”                | 6”    |
|                                          | 700°F       | 332                              | 299 (90%)                          | 6”                | 6”    |
| <b>1-PIECE ISLAND<br/>("V") BANK</b>     | 450°F       | 441                              | 397 (90%)                          | 12”               | 12”   |
|                                          | 600°F       | 581                              | 523 (90%)                          | 12”               | 12”   |
|                                          | 700°F       | 581                              | 523 (90%)                          | 12”               | 12”   |
| <b>2-PIECE ISLAND<br/>(2 WALL HOODS)</b> | 450°F       | 504                              | 454 (90%)                          | 12”               | 12”   |
|                                          | 600°F       | 664                              | 598 (90%)                          | 12”               | 12”   |
|                                          | 700°F       | 664                              | 598 (90%)                          | 12”               | 12”   |

\* Low ceiling models and air flow data can be found on pg 31

- 6” overhangs are the minimum allowed by code. Larkin Industries, Inc. recommends more overhang or end pannels for Island hoods and when high smoke and grease producing equipment is located on the ends of hood.
- Tempered make-up air may be required for these models. Refer to page 64 in your Larkin catalog.
- After collar sizes and static pressures are determined (see static pressure and collar sizing charts pages 40-44). Refer to pages 49-68 for selecting proper fan sizes (CFM static pressure required).

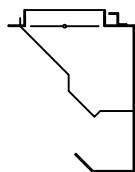


## Air Flow Data

### Low Ceiling Hoods

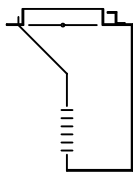


### Compensating and Self Compensating “Low Ceiling” Type Hood Models



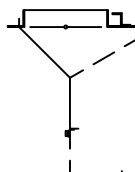
#### SCLC

*Short circuit  
Low Ceiling*



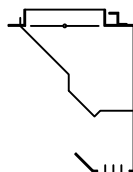
#### SCRLC

*Short circuit  
Register  
Low ceiling*



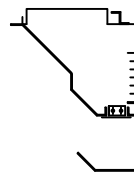
#### SSLC

*Smoke Sucker  
Low ceiling*



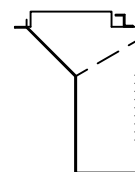
#### SCACLC

*Short circuit  
Air curtain  
Low ceiling*



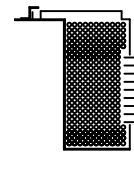
#### SCRFLC

*Short circuit  
Register  
Front*



#### RFLC

*Register front  
Low ceiling*



#### TFLC

*Tri-flow  
Low ceiling*

- Low ceiling models are listed by ETL and have a minimum 18" front.
- Wall style hoods with a finished back are not recommended for low ceiling hoods.
- One-piece hoods are 4' through 16' in length. For hoods over 16', use two hoods end to end.
- "V" Bank Island-hood widths are 60" through 84"; for an island hood wider than 84", use a two-piece island hood (two wall hoods back to back).
- Suffix I denotes "V" bank one-piece island style hood. Example: SCLCI

|                                          | Temperature | Exhaust CFM<br>per linear. (Min) | Supply CFM<br>per linear ft. (Max) | Overhang<br>Front | Overhang<br>Sides |
|------------------------------------------|-------------|----------------------------------|------------------------------------|-------------------|-------------------|
| <b>WALL STYLE<br/>(RFLC &amp; TFLC)</b>  | 450°F       | 275                              | 218 (79%)                          | 6"                | 6"                |
|                                          | 450°F       | 200                              | 180 (90%)                          | 6"                | 6"                |
|                                          | 600°F       | 375                              | 337 (90%)                          | 6"                | 6"                |
|                                          | 700°F       | 375                              | 337 (90%)                          | 6"                | 6"                |
| <b>1-PIECE ISLAND<br/>("V") BANK</b>     | 450°F       | 481                              | 381 (79%)                          | 12"               | 12"               |
| <b>2-PIECE ISLAND<br/>(2 WALL HOODS)</b> | 450°F       | 550                              | 436 (79%)                          | 12"               | 12"               |

- 6" overhangs are the minimum allowed by code. Larkin Industries, Inc. recommends more overhang or end pannels for Island hoods and when high smoke and grease producing equipment is located on the ends of hood.
- More exhaust and or less supply CFM may be needed depending on actual field conditions.
- After collar sizes and static pressures are determined (see static pressure and collar sizing charts pages 40-44). Refer to pages 49-68 for selecting proper fan sizes (CFM static pressure required).
- Low ceiling models are not recommended for heavy loads.
- Consult local codes, some areas may have restrictions on short circuit type hoods.

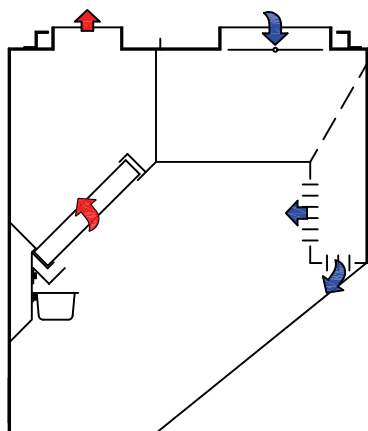


## Air Flow Data



### "Low Proximity" Type Hood Models

*Self compensating and exhaust only*

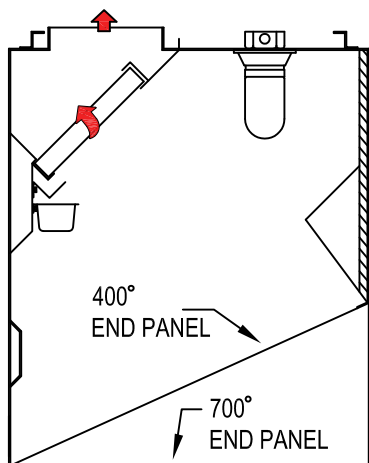


#### LPSCAC

*Low proximity  
Short circuit  
Air curtain*

- Low Proximity Hoods are available in wall style only.
- One-piece hoods are 4' through 12' in length. For hoods over 12', use two hoods end to end.
- More exhaust and or less supply CFM may be needed depending on actual field conditions.

| Temperature | Exhaust CFM per linear. (Min) | Supply CFM per linear ft. (Max) | Overhang Front | Sides | Vertical Height |
|-------------|-------------------------------|---------------------------------|----------------|-------|-----------------|
| 450°F       | 275                           | 220 (80%)                       | 5"             | 1.5"  | 25"             |
| 600°F       | 220                           | 160 (72%)                       | 5"             | 1.5"  | 25"             |
| 700°F       | 220                           | 160 (72%)                       | 5"             | 1.5"  | 25"             |
| 700°F       | 300                           | 188 (62%)                       | -1"            | 1.5"  | 25"             |



#### LP

*Low proximity*

- Low Proximity Hoods are available in wall style only.
- One-piece hoods are 4' through 12' in length. For hoods over 12', use two hoods end to end.

| Temperature | Exhaust CFM per linear. (Min) | Supply CFM per linear ft. (Max) | Overhang Front | Sides | Vertical Height |
|-------------|-------------------------------|---------------------------------|----------------|-------|-----------------|
| 450°F       | 150                           | 135 (90%)                       | -3"            | 2"    | 35"             |
| 700°F       | 200                           | 180 (90%)                       | +3"            | 2"    | 35"             |

- 700° F models only come with full end panels
- Supply air is introduced through an optional back return plenum that terminates below the top of cooking equipment.
- Up to 90% supply air can be introduced, through a back return plenum. Lower supply CFM are recommended on gas equipment to prevent the disturbance of the pilot light.
- Tempered make-up air may be required for these models. Refer to page 64 in your Larkin catalog.
- After collar sizes and static pressures are determined (see static pressure and collar sizing charts pages 40-44). Refer to pages 49-68 for selecting proper fan sizes (CFM static pressure required).





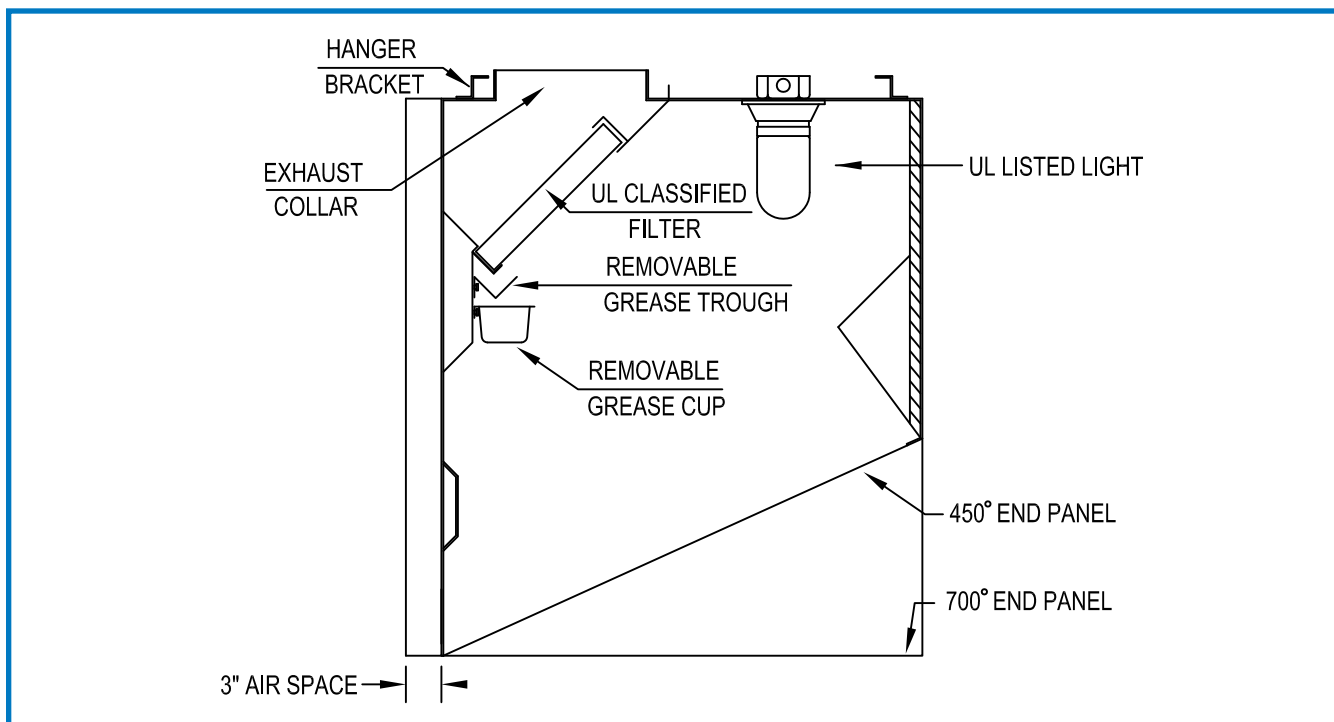
## Larkin Industries, Inc.

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E-mail: sales@larkinhoods.com  
www.larkinhoods.com



### Model LP

*Low proximity*



### General Specifications

Hood shall be of low proximity straight exhaust type. (Make-up air can be introduced through an optional back return plenum.)

The hood shall be fabricated from Type 304, 430 stainless steel, or aluminized steel. 18 & 20 gauge with #3 or #4 polish on all exposed surfaces, and 18 gauge aluminized steel in concealed areas.

Hood shall be of double wall construction with seams and joints welded and sealed liquid tight, to conform to NFPA 96. Corners of hood shall be trimmed to give the hood a straight, crisp appearance free of warps. Where two hoods are joined together for a single application, a cover strip is to be furnished for field installation. A factory mounted alignment and connection kit shall be provided. Heavy gauge hanging brackets for hood shall be on each corner (more brackets as need for longer hoods). Aluminum, stainless steel, or teflon coated grease filters shall be UL classified, non-clogging, baffle type and shall be easily removable for cleaning purposes.

All exhaust plenum surfaces and filters shall drain into a removable grease trough and be conveyed to a removable grease container. Incandescent or fluorescent lights shall be installed at approximately 3' intervals and shall be UL listed for use in exhaust hoods. Lights shall be completely pre-wired to a junction box located on top of the hood.

Exhaust collars shall be aluminized steel and have a 3/4" welding flange for easy field connection. Control panels shall include on/off toggle type switches for the control of hood lights and fans. Each fan switch shall have red pilot lights in handle for positive function status identification. Panel shall have stainless steel face plate with each switch identified. The hood must be constructed in accordance with N.F.P.A., bear the NSF Seal of Approval, and be ETL Listed. Hood to be manufactured by LARKIN INDUSTRIES, INC. 1-800-322-4036

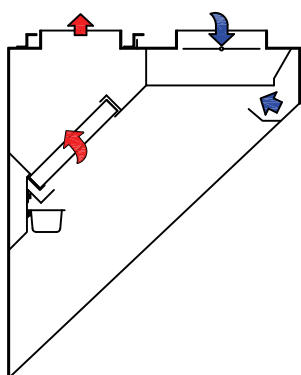
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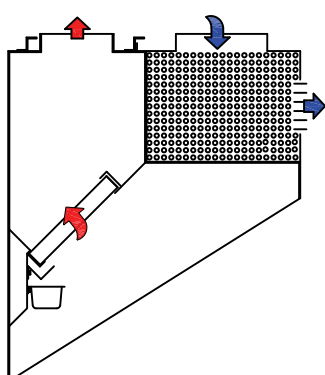


### "Back Shelf" Type Hood Models

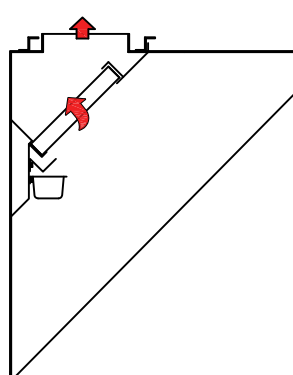
*Make-up air and exhaust only*



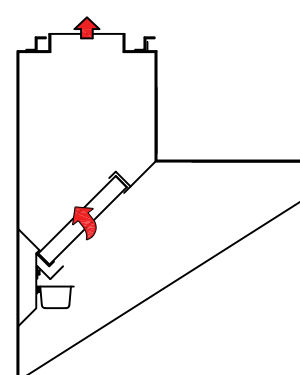
**BSSC**  
*Back shelf  
Short circuit*



**BSTF**  
*Back shelf  
Tri-flow*



**BS**  
*Back shelf*



**BSPS**  
*Back shelf  
Plate shelf*

- Back shelf models are available in wall style only.
- One-piece hoods are 4' through 12' in length. For hoods over 12', use two hoods end to end.
- Standard hood width is 30"
- Standard hood height is 36"

| Model                | Temperature | Exhaust CFM<br>per linear.<br>(Min) | Supply CFM<br>per linear ft.<br>(Max) | Overhang<br>Front | Sides | Vertical<br>Height |
|----------------------|-------------|-------------------------------------|---------------------------------------|-------------------|-------|--------------------|
| <b>BSSC</b>          | 450°F       | 306                                 | 184 (60%)                             | 2"                | 2"    | 25"                |
| <b>BSTF</b>          | 450°F       | 306                                 | 244 (80%)                             | 2"                | 2"    | 25"                |
| <b>BS &amp; BSPS</b> | 450°F       | 306                                 | 275 (90%)                             | 2"                | 2"    | 25"                |

- For models BS and BSPS, supply air is introduced through an optional back return plenum that terminates below the top of cooking equipment.
- Up to 90% supply air can be introduced, through a back return plenum. Lower supply CFM are recommended on gas equipment to prevent the disturbance of the pilot light.
- Tempered make-up air may be required for these models. Refer to page 64 in your Larkin catalog.
- After collar sizes and static pressures are determined (see static pressure and collar sizing charts pages 40-44). Refer to pages 49-68 for selecting proper fan sizes (CFM static pressure required).
- More exhaust and or less supply CFM may be needed depending on actual field conditions.



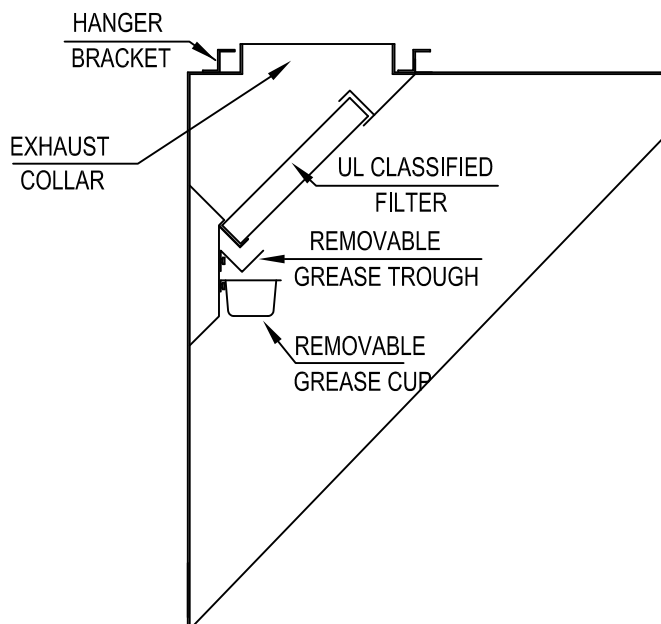
## Larkin Industries, Inc.

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www.larkinhoods.com



### Model BS

*Back shelf*



### General Specifications

Hood shall be straight exhaust type. Make-up air can be introduced through an optional back return plenum.

The hood shall be fabricated from Type 304, 430 stainless steel, or aluminized steel. 18 & 20 gauge with #3 or #4 polish on all exposed surfaces, and 18 gauge aluminized steel in concealed areas.

Hood shall be of double wall construction with seams and joints welded and sealed liquid tight, to conform to NFPA 96. Corners of hood shall be trimmed to give the hood a straight, crisp appearance free of warps. Heavy gauge hanging brackets for hood shall be on each corner (more brackets as need for longer hoods). Aluminum, stainless steel, or teflon coated grease filters shall be UL classified, non-clogging, baffle type and shall be easily removable for cleaning purposes.

All exhaust plenum surfaces and filters shall drain into a removable grease trough and be conveyed to a removable grease container.

Exhaust collars shall be aluminized steel and have a 3/4" welding flange for easy field connection. The hood must be constructed in accordance with N.F.P.A., bear the NSF Seal of Approval, and be ETL Listed. Hood to be manufactured by LARKIN INDUSTRIES, INC. 1-800-322-4036

*NOTE: The above illustration and specifications are general and do not necessarily represent the specific options that were quoted specifically, or purchased. See your submittal data sheet or written quotation for specific materials, option, and accessories for your kitchen exhaust hood system.*

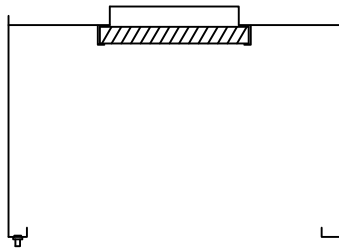
*Due to continuing research, Larkin Industries, Inc. reserves the right to change specifications without notice.*

## Air Flow Data

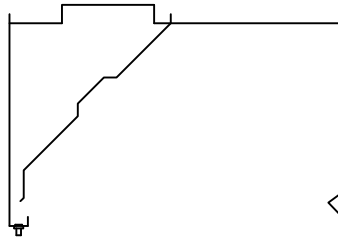
### Type II Hood Models



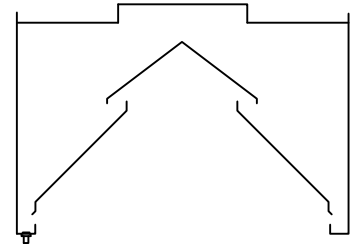
### Condensate Hood Models



**CH-1**  
*Condensate Hood-1*

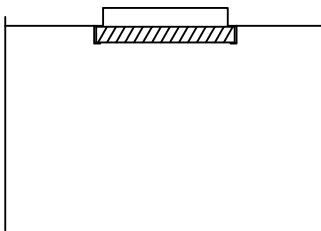


**CH-2**  
*Condensate Hood-2*

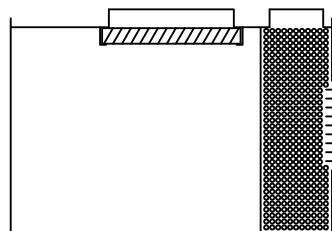


**CH-3**  
*Condensate Hood-3*

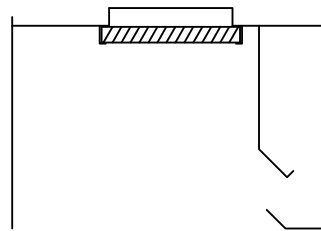
### Oven Hood Models



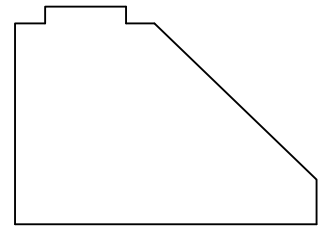
**OH**  
*Oven Hood*



**TFOH**  
*Tri-flow Oven Hood*



**SCOH**  
*Short Circuit Oven Hood*



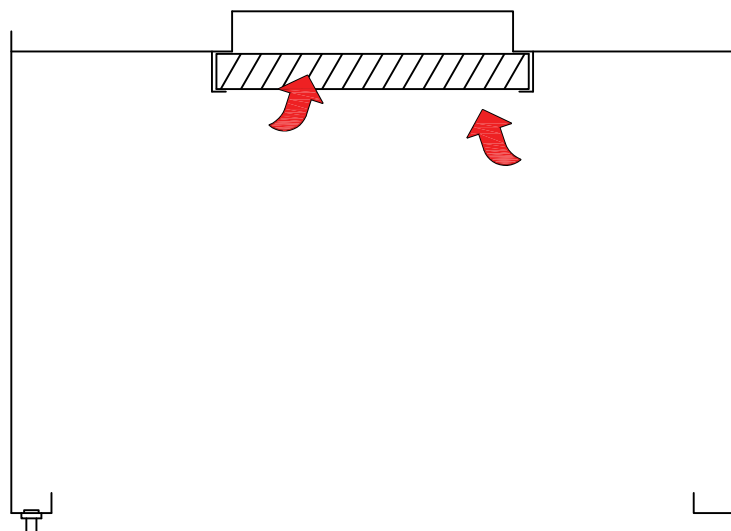
**EB**  
*Eye Brow*

Oven and condensate hoods are used over non-grease producing equipment only, and are not required to meet NFPA 96 standards. However, when they are part of a total kitchen design, the air which is exhausted from them has to be considered.

- The air flow for these hood models should be calculated at 200 CFM per linear foot, exhaust, and 90% make-up air for TFOH model and 80% make-up air for SCOH model.
- It is recommended to allow for a 6" overhang front, back, and sides.
- Oven hood ductwork does not have to be welded but it should be sealed. Condensate hood duct should be made of non-corrosive material.
- See explanation of radiant heat (heat that hoods cannot remove) on page 7 in your Larkin catalog.
- Custom sizes and a full line of options are available.



## Type II Hood Models



**Model CH** (condensate hood) is a condensation removal hood with a full-perimeter condensate gutter, with 1/2" drain. It is used over dishwashers and steam producing equipment. Also available CH2 (1 Baffle Design) and CH3 (3 Baffle Design)

### Standard Hood Width

Custom

### Standard Hood Lengths

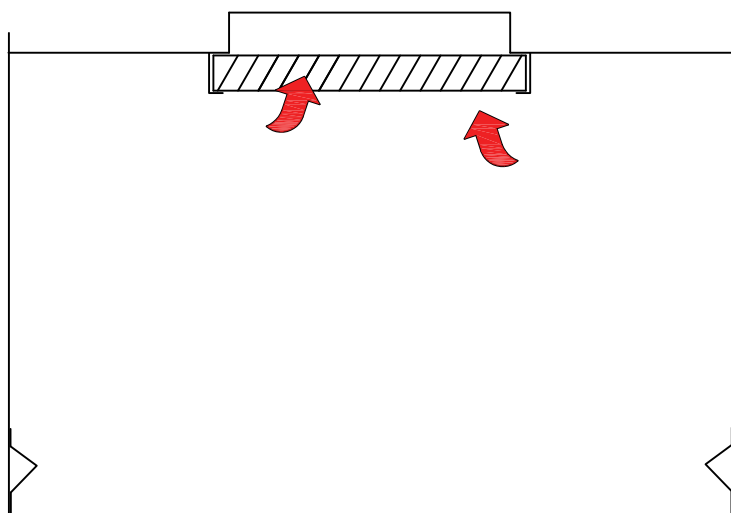
Custom

### Standard Hood Height

24", 30", 36"

### Materials

Type 430 & 304 Stainless Steel



**Model OH** (oven hood) is a heat removal hood. It is used for non-grease producing equipment such as: ovens, warmers, and stock kettles, etc.

### Standard Hood Width

Custom

### Standard Hood Lengths

Custom

### Standard Hood Height

24"

### Materials

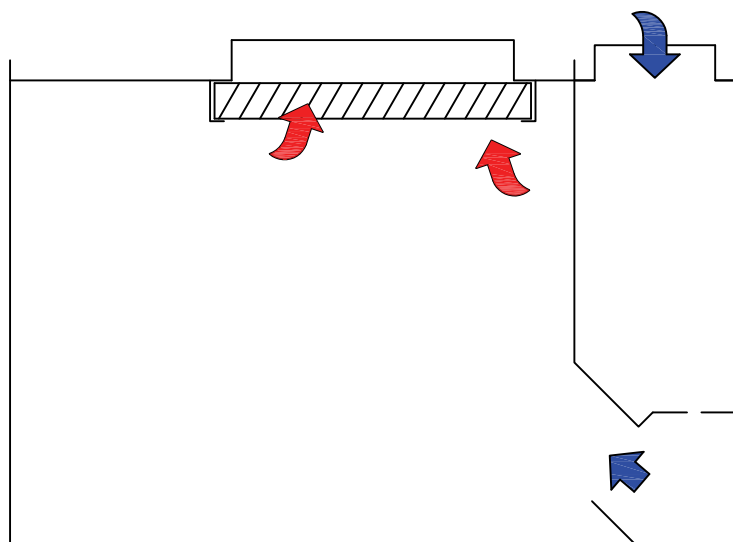
Type 430 & 304 Stainless Steel /  
Aluminized Steel



*\*For air flow information consult factory.*

*Due to wide variations in state, county and city codes, Larkin Industries, Inc must be advised of any special requirements in construction or design at time of quotation.*

## Type II Hood Models



**Model SCOH** (short circuit oven hood) is a self compensating heat removal hood, for non-grease-producing equipment, when make-up air is desired. Recommended for large ovens and pizza ovens.

### Standard Hood Width

Custom

### Standard Hood Lengths

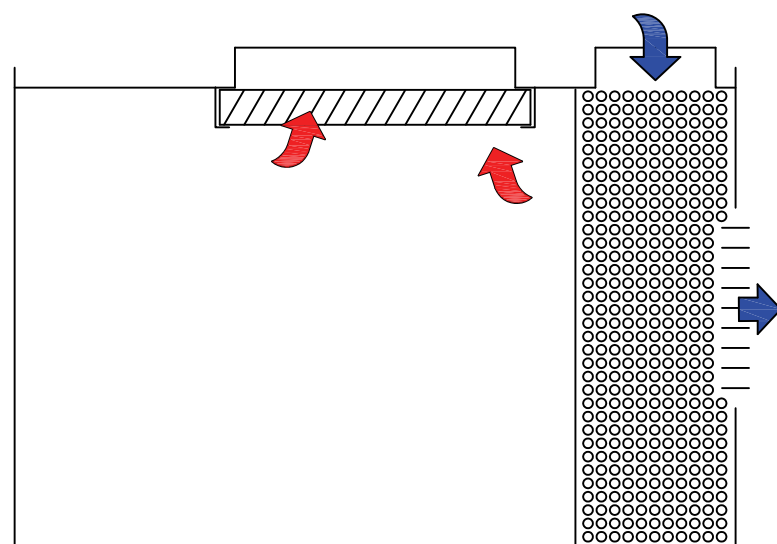
Custom

### Standard Hood Height

24"

### Materials

Type 430 & 304 Stainless Steel /  
Aluminized Steel



**Model TFOH** (Tri-Flow oven hood) is a compensating heat removal hood, for non-grease producing equipment, when make-up air is desired. Recommended for large ovens and pizza ovens.

### Standard Hood Width

Custom

### Standard Hood Lengths

Custom

### Standard Hood Height

24"

### Materials

Type 430 & 304 Stainless Steel /  
Aluminized Steel



*\*For air flow information consult factory.*

*Due to wide variations in state, county and city codes, Larkin Industries, Inc must be advised of any special requirements in construction or design at time of quotation.*



**In order to select the proper size fans, the following must be known:**

- 1.** CFM of exhaust and supply air
  - 2.** Static pressure loss of hood including duct collars
  - 3.** Static pressure loss of duct systems
- The air flow data pages will give you the proper CFM of exhaust and supply air needed for the model of hood selected (pages 13-34).
  - The static pressure loss of hood is based on: filters, plenums, duct collars and an 8' straight vertical duct run. Refer to static pressure and collar sizing charts (pages 40-44).

The exhaust duct should be designed for a minimum velocity of 1500 FPM. Refer to the ASHRAE manuals or a ductulator to properly size exhaust and supply duct. The following factors will be helpful to determine the static loss of exhaust duct.

### Static loss measured in inches of water column

|                        |                        |
|------------------------|------------------------|
| One foot of duct=.0025 | Mitered 90° elbows .20 |
| Pant leg duct=.40      | Mitered 45° elbows .05 |
| Radius 90° elbows=.125 | Radius 45° elbows .02  |

**EXAMPLE** For Determining fans and static pressure for a 10' EOFSP hood system with 90% make-up air. The airflow data on page (13) indicates the exhaust rate for an E0 hood is 2000cfm. (200cfm per foot of hood length x 10' = 2000cfm). The exhaust collar and static pressure chart on page (40) indicates an exhaust collar size of 13" x 13" is the best suited for this system, producing a static pressure of .625". 90% make-up air is 1800cfm (2000cfm x 90% = 1800cfm). The supply air collar sizing chart on page (44) indicates a supply collar size of 10" x 24" at .125" static pressure. To select the proper fans based on this criteria refer to the fan selection pages (54) exhaust fans and (62) supply fans. These pages suggest a 135V5B exhaust fan, producing 2000cfm at .625" static pressure. The proper size supply fan is an ARS 10 with 1/3 horsepower producing 1800cfm at .125" static pressure.

**\*\*NOTE:** This example does not include any static pressure loss for duct system\*\*



## Exhaust Air Static Pressure and Collar Sizing Chart

### Wall Style



- Larkin Industries, Inc. recommends the use of two exhaust collars for wall hoods 12' and over in length.
- If two duct collars are required, or the total exhaust CFM are more than 7200, divide the exhaust CFM by 2 and select two collars from the chart below.
- Duct collars are sized based on CFM and will be furnished based on the chart below.

#### Standard Exhaust Duct Collar Sizes and Static Pressure Losses for Wall Hood Models.

| CFM Per Duct Collar | Size of Duct Collar<br>(W x L inches) | Static Pressure |                         |
|---------------------|---------------------------------------|-----------------|-------------------------|
|                     |                                       | Baffle Filter   | High Velocity Cartridge |
| 550 - 657           | 7 x 7                                 | .375            | .750                    |
| 658 - 850           | 8 x 8                                 | .375            | .750                    |
| 851 - 1050          | 9 x 9                                 | .375            | .750                    |
| 1051 - 1300         | 10 x 10                               | .375            | .750                    |
| 1301 - 1500         | 11 x 11                               | .375            | .750                    |
| 1501 - 1800         | 12 x 12                               | .500            | .875                    |
| 1801 - 2100         | 13 x 13                               | .500            | .875                    |
| 2101 - 2400         | 14 x 14                               | .500            | .875                    |
| 2401 - 2700         | 15 x 15                               | .625            | 1.000                   |
| 2701 - 3300         | 16 x 16                               | .625            | 1.000                   |
| 3301 - 3600         | 16 x 19                               | .625            | 1.000                   |
| 3601 - 4200         | 16 x 21                               | .750            | 1.125                   |
| 4201 - 4600         | 16 x 24                               | .750            | 1.125                   |
| 4601 - 4900         | 16 x 26                               | .875            | 1.125                   |
| 4901 - 5600         | 16 x 28                               | 1.000           | 1.500                   |
| 5601 - 6300         | 16 x 30                               | 1.000           | 1.500                   |
| 6301 - 6800         | 16 x 32                               | 1.125           | 1.500                   |
| 6801 - 7200         | 16 x 36                               | 1.125           | 1.500                   |

#### NOTES:

1. Static pressure losses are based on: 16" filters, exhaust plenum, duct collars and an 8' vertical run of straight duct.
2. Exhaust collar sizes are based on velocities of 1500 to 1800 FPM.
3. Static pressures are rounded to the highest 1/8".

## Exhaust Air Static Pressure and Collar Sizing Chart

### Wall Style with Collar Out Back



- Larkin Industries recommends the use of two exhaust collars for wall hoods 10' and over in length.
- If two duct collars are required, or the total exhaust CFM are more than 3600, divide the exhaust CFM by 2 and select two collars from the chart below.
- Duct collars are sized based on CFM and will be furnished based on the chart below.

#### Standard Exhaust Duct Collar Sizes and Static Pressure Losses for Wall Hood Models with Collar Out the Back of the Hood.

| CFM Per Duct Collar | Size of Duct Collar<br>(W x L inches) | Static Pressure |                         |
|---------------------|---------------------------------------|-----------------|-------------------------|
|                     |                                       | Baffle Filter   | High Velocity Cartridge |
| 550 - 675           | 7 x 7                                 | .250            | .625                    |
| 676 - 850           | 8 x 8                                 | .250            | .625                    |
| 851 - 1050          | 9 x 9                                 | .250            | .625                    |
| 1051 - 1250         | 10 x 10                               | .250            | .625                    |
| 1251 - 1500         | 10 x 12                               | .250            | .625                    |
| 1501 - 1750         | 10 x 14                               | .375            | .750                    |
| 1751 - 2000         | 10 x 16                               | .375            | .750                    |
| 2001 - 2300         | 10 x 17                               | .500            | 1.000                   |
| 2301 - 2500         | 10 x 20                               | .500            | 1.000                   |
| 2501 - 2800         | 10 x 21                               | .625            | 1.125                   |
| 2801 - 3000         | 10 x 24                               | .625            | 1.125                   |
| 3001 - 3500         | 10 x 26                               | .625            | 1.125                   |
| 3501 - 3600         | 10 x 27                               | .750            | 1.250                   |

#### NOTES:

1. Static pressure losses are based on: 16" filters, exhaust plenum and duct collars.
2. Exhaust collar sizes are based on velocities of 1500 to 1800 FPM.
3. Static pressures are rounded to the highest 1/8".
4. If one collar is used on a large hood, the collar may exceed the base size of the fan.
5. The maximum available space for a collar out back is 10" from the top of the hood to the filter rack.

## Exhaust Air Static Pressure and Collar Sizing Chart

### *V-Bank Island Style*



- It is recommended to use two exhaust collars for island hoods 10' and over in length.
- If two exhaust collars are required or the total exhaust CFM are more than 7200, divide exhaust CFM by 2 and select two collars from the chart below.
- For two-piece island hoods (2 wall hoods back to back) select one collar from the chart below. Two half collars match up when hoods are hung back to back, forming one collar.

**Standard Exhaust Collar Size, and Static Pressure Losses for One-Piece and Two-Piece Island Hood Models.**

**ACI ACRFI, EOI, EOSI, RFI, SCI, SCACI, SCRI, SCRACI, SCRFI, SSI, TFI, & LFI.**

| CFM Per Duct Collar | Size of Duct Collar<br>(W x L inches) | Baffle Filter<br>S.P. | High Velocity<br>Cartridge |
|---------------------|---------------------------------------|-----------------------|----------------------------|
| 1301 - 1500         | 11 x 11                               | .250                  | .500                       |
| 1501 - 1800         | 12 x 12                               | .250                  | .500                       |
| 1801 - 2100         | 13 x 13                               | .375                  | .750                       |
| 2101 - 2400         | 14 x 14                               | .375                  | .750                       |
| 2401 - 2700         | 15 x 15                               | .500                  | .875                       |
| 2701 - 3300         | 16 x 16                               | .500                  | .875                       |
| 3301 - 3600         | 17.5 x 17.5                           | .500                  | .875                       |
| 3601 - 4200         | 18.5 x 18.5                           | .625                  | 1.000                      |
| 4201 - 4600         | 19.5 x 19.5                           | .625                  | 1.000                      |
| 4601 - 4900         | 20.5 x 20.5                           | .750                  | 1.125                      |
| 4901 - 5600         | 21 x 21                               | .750                  | 1.125                      |
| 5601 - 6300         | 22 x 22                               | .750                  | 1.250                      |
| 6301 - 6800         | 22.5 x 22.5                           | .875                  | 1.250                      |
| 6801 - 7200         | 24 x 24                               | .875                  | 1.250                      |

#### **NOTES:**

1. Static pressure losses are based on: 16" filters, exhaust plenum, duct collars and an 8' vertical run of straight duct.
2. Exhaust collar sizes are based on velocities of 1500 to 1800 FPM.
3. Static pressures are rounded to the highest 1/8".

## Exhaust Air Static Pressure and Collar Sizing Chart

### *Back Shelf and Low Proximity Style*



- Duct collars are sized based on CFM and will be furnished based on the chart below.
- For hoods 8' and over it is recommended to use two exhaust collars.
- If two duct collars are required, or the total exhaust CFM are more than 2800, divide the exhaust CFM by 2 and select two collars from the chart below.

#### Standard Exhaust Collar Sizes and Static Pressure Losses for Models.

**BS, BSPS, BSSC, LP, LPSCAC**

| CFM Per Duct Collar | Size of Duct Collar<br>(W x L inches) | Baffle Filter<br>S.P. | High Velocity<br>Cartridge |
|---------------------|---------------------------------------|-----------------------|----------------------------|
| 550 - 675           | 7 x 7                                 | .500                  | .750                       |
| 676 - 850           | 8 x 8                                 | .625                  | 1.000                      |
| 851 - 1050          | 9 x 9                                 | .750                  | 1.000                      |
| 1051 - 1300         | 10 x 10                               | .875                  | 1.125                      |
| 1301 - 1550         | 10 x 12                               | .875                  | 1.125                      |
| 1551 - 1900         | 10 x 14                               | 1.000                 | 1.250                      |
| 1901 - 2350         | 10 x 18                               | 1.000                 | 1.500                      |
| 2351 - 2800         | 10 x 22                               | 1.125                 | 1.500                      |

#### **NOTES:**

1. Static pressure losses are based on: 12" filters, exhaust plenum and duct collars and an 8' vertical run of straight duct.
2. Exhaust collar sizes are based on velocities of 1500 to 1800 FPM.
3. Static pressures are rounded to the highest 1/8".

## Supply Air Static Pressure and Collar Sizing Chart



### Standard Supply Collar Sizes and Static Pressure Losses for Wall and Island Models.

SC, SCAC, SCR, SCRF, SS, BSSC, LPSCAC, TF, LF

| CFM Per Duct Collar | Size of Duct Collar<br>(W x L inches) | Static Pressure |
|---------------------|---------------------------------------|-----------------|
| UP to 1100          | 10 x 16                               | .125            |
| 1101 - 1400         | 10 x 20                               | .125            |
| 1401 - 1800         | 10 x 24                               | .125            |
| 1801 - 2200         | 10 x 30                               | .125            |
| 2201 - 2600         | 10 x 36                               | .125            |
| 2601 - 3200         | 10 x 40                               | .125            |

- When using a FPSP (Front Perforated Supply Plenum) we recommend (1) 10" x 24" collar for up to 1800 CFM. Use (2) 10" x 24" collars when airflow exceeds 1800 CFM at a static pressure of .125".
- When using a BR (Back Return Plenum) we recommend (1) 6" x 24" collar for up to 1800 CFM. Use (2) 6" x 24" collars when airflow exceeds 1800 CFM at a static pressure of .125".

### Standard Supply Collar Sizes and Static Pressure Losses for Wall and Island Models.

AC, ACRF, RF, SCRAC

| CFM Per Duct Collar | Size of Duct Collar<br>(W x L inches) | Static Pressure |
|---------------------|---------------------------------------|-----------------|
| UP to 1100          | 10 x 16                               | .250            |
| 1101 - 1400         | 10 x 20                               | .250            |
| 1401 - 1800         | 10 x 24                               | .250            |
| 1801 - 2200         | 10 x 30                               | .250            |
| 2201 - 2600         | 10 x 36                               | .250            |
| 2601 - 3200         | 10 x 40                               | .250            |

#### NOTES:

1. Static pressure losses are based on: supply duct collar, supply plenums, and registers (no supply duct).
2. Static pressures are rounded to the highest 1/8".
3. For one-piece and two-piece island hoods, divide total supply CFM by 2 and select two collars (one for each supply plenum).
4. For wall and island style hoods 12' and over in length, two supply collars are recommended.
5. If two supply collars are required or the total supply CFM are more than 3200, divide supply CFM by 2 and select two collars from the above charts.
6. Supply collar sizes are based on velocities of 900 to 1250 FPM.

## Standard Filter Chart

*All Canopy Hoods*



1. The following chart lists the standard filter sizes and quantities per hood length.
2. Two sizes of filters are used to maximize the filter face area.
3. First dimensions of filter reflects the vertical height.

| Hood Length | Filter Quantity and Size    |
|-------------|-----------------------------|
| 4'0"        | (1) 16" x 25" (1) 16" x 20" |
| 4'6"        | (2) 16" x 25"               |
| 5'0"        | (3) 16" x 20"               |
| 5'6"        | (1) 16" x 25" (2) 16" x 20" |
| 6'0"        | (2) 16" x 25" (1) 16" x 20" |
| 6'6"        | (3) 16" x 25"               |
| 7'0"        | (4) 16" x 20"               |
| 7'6"        | (2) 16" x 25" (2) 16" x 20" |
| 8'0"        | (3) 16" x 25" (1) 16" x 20" |
| 8'6"        | (4) 16" x 25"               |
| 9'0"        | (4) 16" x 20" (1) 16" x 25" |
| 9'6"        | (2) 16" x 20" (3) 16" x 25" |
| 10'0"       | (4) 16" x 25" (1) 16" x 20" |
| 10'6"       | (5) 16" x 25"               |
| 11'0"       | (2) 16" x 25" (4) 16" x 20" |
| 11'6"       | (3) 16" x 25" (3) 16" x 20" |
| 12'0"       | (5) 16" x 25" (1) 16" x 20" |
| 12'6"       | (6) 16" x 25"               |
| 13'0"       | (3) 16" x 25" (4) 16" x 20" |
| 13'6"       | (4) 16" x 25" (3) 16" x 20" |
| 14'0"       | (6) 16" x 25" (1) 16" x 20" |
| 14'6"       | (7) 16" x 25"               |
| 15'0"       | (4) 16" x 25" (4) 16" x 20" |
| 15'6"       | (5) 16" x 25" (3) 16" x 20" |
| 16'0"       | (6) 16" x 25" (2) 16" x 20" |

**NOTE:** V-Bank Island Style Hoods 48" - 60" wide (exhaust only models) and 60" - 72" wide make-up-air models require 12" (vertical height) filters in the same quantity as indicated above.

## Standard Filter Chart

### *Back Shelf and Low Proximity Hoods*



1. The following chart lists the standard filter sizes and quantities per hood length.
2. Two sizes of filters are used to maximize the filter face area.
3. First dimensions of filter reflects the vertical height.

| Hood Length | Filter Quantity and Size |               |
|-------------|--------------------------|---------------|
| 4'0"        | (1) 16" x 25"            | (1) 12" x 20" |
| 4'6"        | (2) 12" x 25"            |               |
| 5'0"        | (3) 12" x 20"            |               |
| 5'6"        | (1) 12" x 25"            | (2) 12" x 20" |
| 6'0"        | (2) 12" x 25"            | (1) 12" x 20" |
| 6'6"        | (3) 12" x 25"            |               |
| 7'0"        | (4) 12" x 20"            |               |
| 7'6"        | (2) 12" x 25"            | (2) 12" x 20" |
| 8'0"        | (3) 12" x 25"            | (1) 12" x 20" |
| 8'6"        | (4) 12" x 25"            |               |
| 9'0"        | (4) 12" x 20"            | (1) 12" x 25" |
| 9'6"        | (2) 12" x 20"            | (3) 12" x 25" |
| 10'0"       | (4) 12" x 25"            | (1) 12" x 20" |
| 10'6"       | (5) 12" x 25"            |               |
| 11'0"       | (2) 12" x 25"            | (4) 12" x 20" |
| 11'6"       | (3) 12" x 25"            | (3) 12" x 20" |
| 12'0"       | (5) 12" x 25"            | (1) 12" x 20" |

## Hood Weights



The following hood weight formulas are only estimates. These estimates are based on our standard 18-gauge stainless steel or aluminized steel hoods and includes hood, lights, and filters. All hood weights vary depending on the options chosen (i.e. ANSUL, Wall Panels, Plenums, etc.) and exact style of hood (hood weights must be figured per section).

Add 50 lb. per ft. for each additional foot of hood over 4' to the weights listed below.

| 24" Tall Make-up Air Hoods |           |           |           |           |           |
|----------------------------|-----------|-----------|-----------|-----------|-----------|
| Length                     | 42" Width | 48" Width | 54" Width | 60" Width | 66" Width |
| 4'                         | 240 lb.   | 250 lb.   | 260 lb.   | 270 lb.   | 280 lb.   |

Add 65 lb. per ft. for each additional foot of hood over 4' to the weights listed below.

| 32" Tall Make-up Air Hoods |           |           |           |           |           |
|----------------------------|-----------|-----------|-----------|-----------|-----------|
| Length                     | 42" Width | 48" Width | 54" Width | 60" Width | 66" Width |
| 4'                         | 291 lb.   | 304 lb.   | 316 lb.   | 329 lb.   | 341 lb.   |

Add 52 lb. per ft. for each additional foot of hood over 4' to the weights listed below.

| 24" Tall Tri-Flow and Lazy Flow Hoods |           |           |           |           |           |
|---------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Length                                | 44" Width | 50" Width | 56" Width | 62" Width | 68" Width |
| 4'                                    | 237 lb.   | 245 lb.   | 257 lb.   | 262 lb.   | 270 lb.   |

Add 45 lb. per ft. for each additional foot of hood over 4' to the weights listed below.

| 24" Tall Exhaust Only Hoods |           |           |           |           |           |           |
|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Length                      | 36" Width | 42" Width | 48" Width | 54" Width | 60" Width | 62" Width |
| 4'                          | 209 lb.   | 218 lb.   | 226 lb.   | 235 lb.   | 243 lb.   | 252 lb.   |

Add 52 lb. per ft. for each additional foot of hood over 4' to the weights listed below.

| 32" Tall Exhaust Only Hoods |           |           |           |           |           |           |
|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Length                      | 36" Width | 42" Width | 48" Width | 54" Width | 60" Width | 66" Width |
| 4'                          | 228 lb.   | 240 lb.   | 254 lb.   | 266 lb.   | 278 lb.   | 292 lb.   |

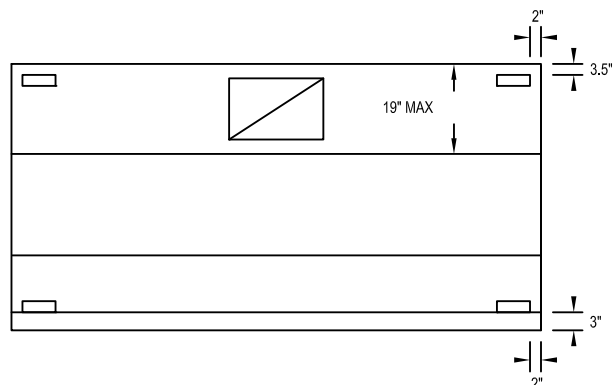
### 24" Tall Condensate and Oven Hoods

| Dimensions | Weight  |
|------------|---------|
| 2' x 2'    | 93 lb.  |
| 2' x 3'    | 129 lb. |
| 2' x 4'    | 138 lb. |
| 3' x 3'    | 152 lb. |
| 3' x 4'    | 170 lb. |
| 3' x 5'    | 202 lb. |
| 4' x 4'    | 181 lb. |
| 4' x 6'    | 278 lb. |
| 4' x 7'    | 303 lb. |

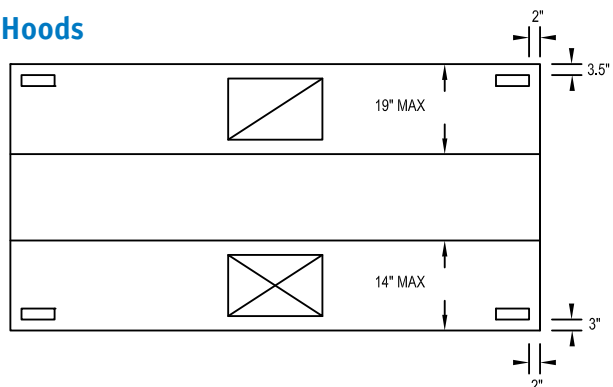
**Note:** Consult factory for exact shipping weights.



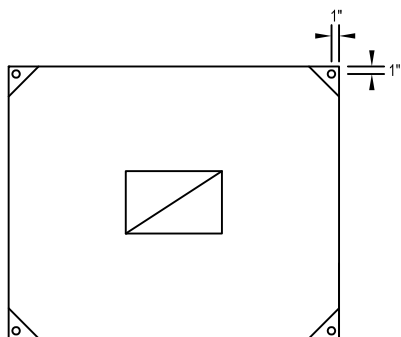
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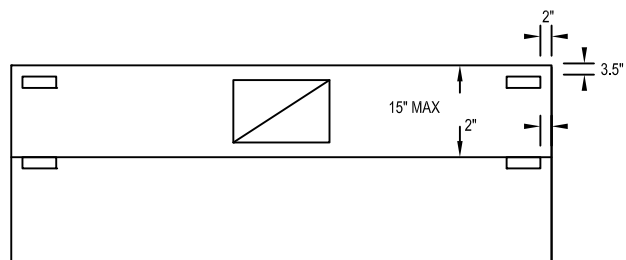
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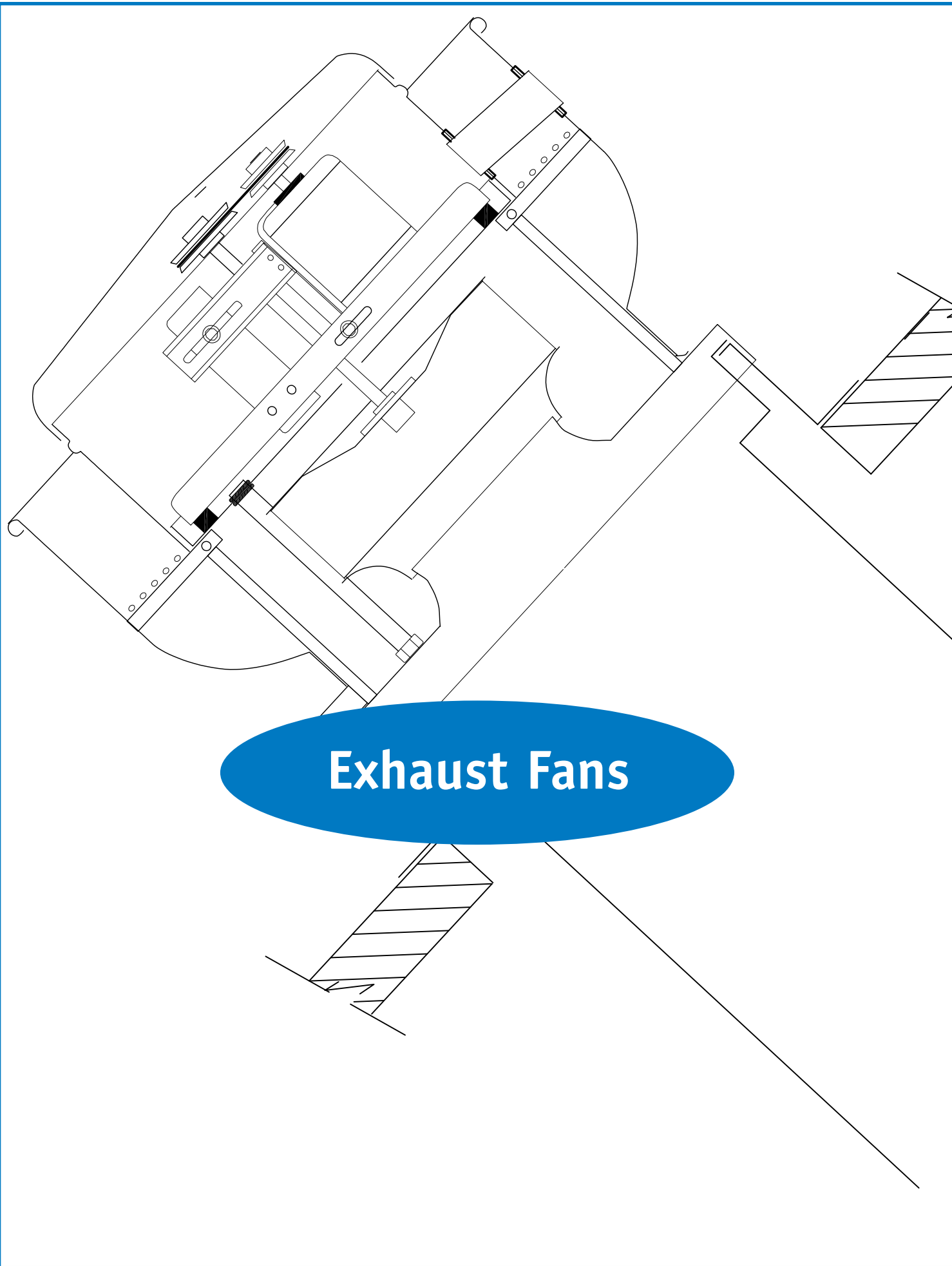


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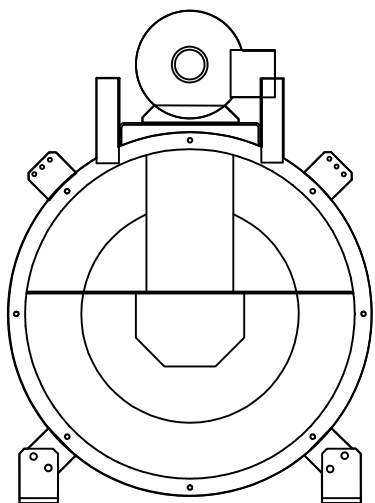
## Exhaust Fans

## Exhaust Fans



Larkin Industries, Inc. offers a full line of exhaust fans including one of the only UL-762 listed in line grease fans available and commercial vent sets.

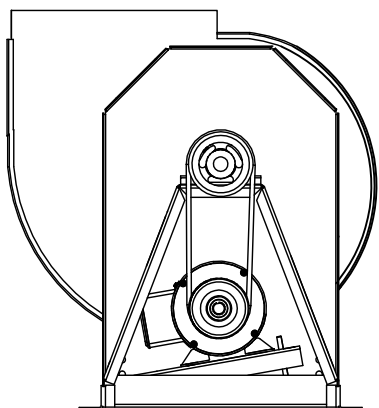
### In Line Grease Fans



- The XTIF is one of the only in line fans in the industry that is UL-762 listed and approved for the removal of grease laden vapor. It is the only option in cases where a roof or wall mounted exhauster cannot be used.

*XTIF in line grease fan pictured.*

### Vent Sets



- The Vent Set is an alternative to the spun aluminum up blast exhauster. They are generally used in applications where high static pressures or extra heavy cooking loads are present. They are rated for 200,000 hours average life and are constructed with heavy gauge steel housings.

*UL 762 XUEB vent set pictured.*

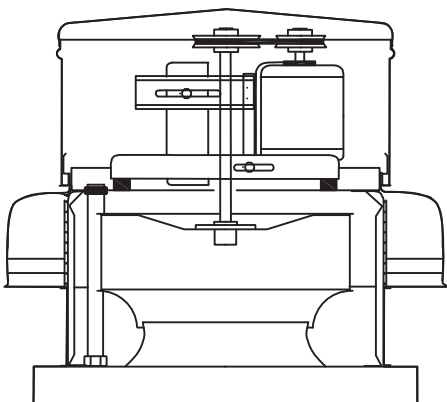
\* Contact Larkin Industries, Inc. for details and air flow data on the above fan models.

## Exhaust Fans



Larkin Industries, Inc. offers a full line of spun aluminum roof and wall exhaust fans. Up blast and down blast fans are available in either belt drive or direct drive configurations.

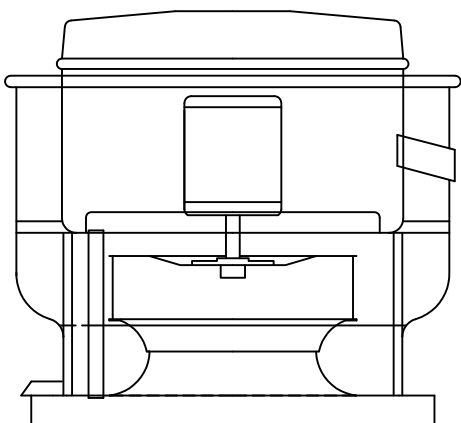
### Down Blast Exhaust Fans



- Down blast exhaust fans are ideal for applications where a UL-762 listed (approved for the removal of grease laden vapor) is not required, as with most oven hoods and all condensate hoods.

*UL 705 Belt drive down blast pictured.*

### Direct Drive Exhaust Fans



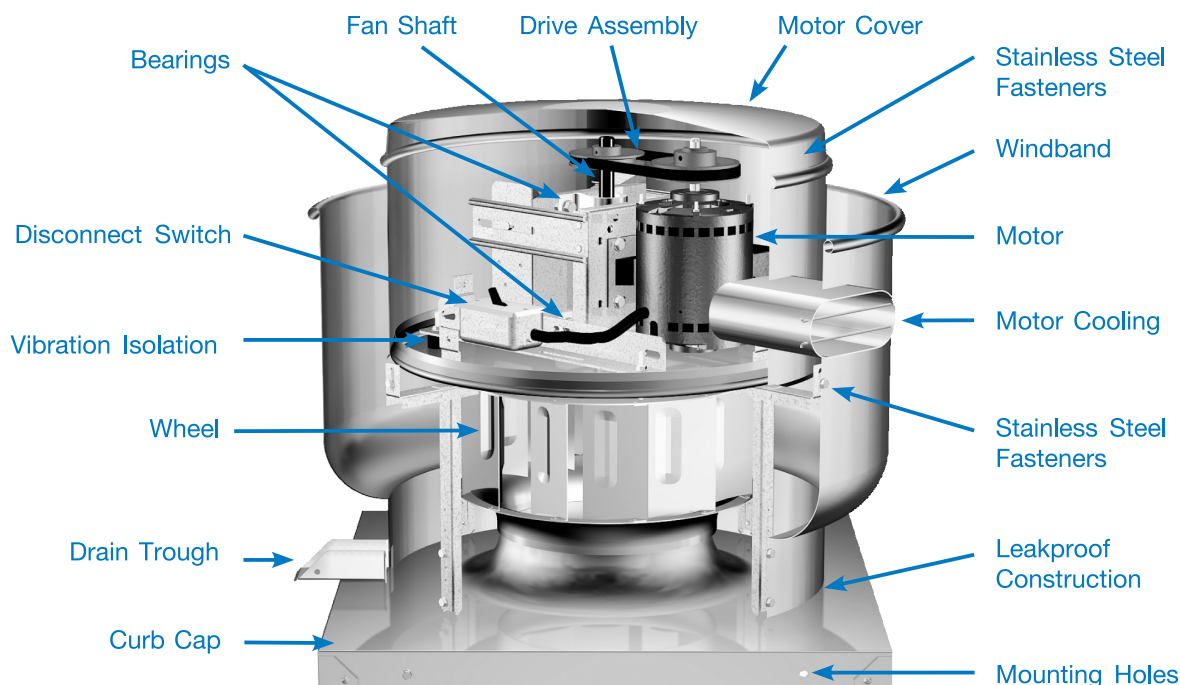
- Direct drive fans are an economical choice for smaller hood systems, they offer economy but do not allow for field adjustment like the belt drive fans. Direct drive fans are only recommended for hoods 8' and down.

*UL 762 Direct drive up blast pictured.*

\* Contact Larkin Industries, Inc. for details and air flow data on the above fan models.

## Standard Exhaust Fans

### *Spun Aluminum Up Blast*



### **UL 762 Kitchen Exhaust Fans**

Spun aluminum up blast fans from 80 to 30,000 CFM and up to 5" of static pressure

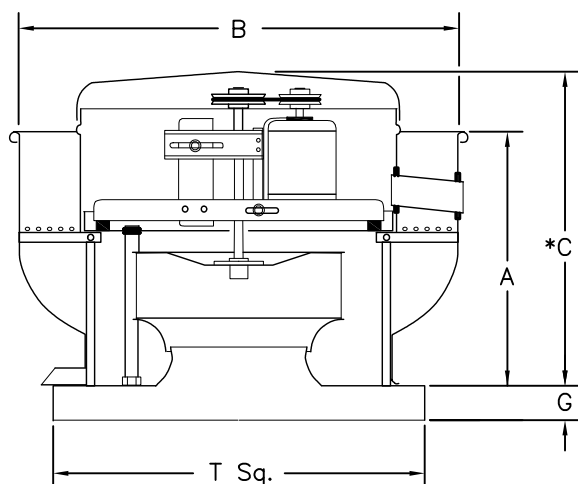
#### **Larkin Kitchen Exhaust Fans**

When you buy a Larkin up blast exhaust fan, you know you are getting a fan with the industry's best performance and durability. Engineered and constructed exclusively for commercial kitchen applications these fans will provide years of trouble free service. The fans are constructed of one-piece spun aluminum windbands that are robotically welded to the curb cap. This process ensures a leak proof fan design that incorporates stainless steel fasteners, heavy gauge internal supports and bracing, and an integral solid welded aluminum grease trough for grease drainage with no mess. The Larkin up blast kitchen exhaust fan also features one of the most advanced motor cooling designs available on a commercial kitchen fan. Special "cooling fins" on the blower wheel draws fresh air directly to the motor openings through an oversized oval breather tube. These design features provide for maximum motor life, excellent fan performance, and the greatest reliability possible while keeping our prices extremely competitive.

#### **Larkin Kitchen Exhaust Fans offer these advantages**

- Industries best performance and reliability
- UL 762 listed for exhaustion of grease laden vapors/cooking effluents
- Leak proof design and construction
- One-piece spun aluminum wind band with continuous robotic welded seam joining the wind band to the curb cap for the life of the fan
- Integral sold welded grease drain trough
- Maximum motor life is guaranteed with an advanced motor cooling system incorporating an over-sized breather tube.
- Mounting holes are pre-punched in the curb cap

## Exhaust Fan Dimensional Data



Larkin Industries Inc. certifies that the XRUB shown herein are licensed to bear the AMCA seal. The ratings shown are based on test and procedures performed in accordance with AMCA publication 211 and AMCA publication 311 and comply with the requirements of the AMCA certified ratings program.

The XRUB model is listed for electrical (UL/C-UL US705) and for grease removal (UL/C-UL US762)

| Size | A      | B       | C      | G     | T Sq. | Approx. Unit Wt. | Roof Opening Square |
|------|--------|---------|--------|-------|-------|------------------|---------------------|
| 098  | 17 3/8 | 24 7/8  | 28 1/4 | 1 3/4 | 19    | 58               | 16                  |
| 101  | 17 3/8 | 24 7/8  | 28 1/4 | 1 3/4 | 19    | 58               | 16                  |
| 121  | 17 3/8 | 24 7/8  | 28 1/4 | 1 3/4 | 19    | 66               | 16                  |
| 131  | 17 3/8 | 24 7/8  | 28 1/4 | 1 3/4 | 19    | 66               | 16                  |
| 141  | 19 3/8 | 28 7/8  | 29 3/4 | 1 3/4 | 22    | 84               | 19                  |
| 161  | 19 3/8 | 28 7/8  | 29 3/4 | 1 3/4 | 22    | 87               | 19                  |
| 180  | 21     | 35 3/8  | 28 5/8 | 1 3/4 | 30    | 126              | 27                  |
| 200  | 21     | 35 3/8  | 28 5/8 | 1 3/4 | 30    | 142              | 27                  |
| 220  | 25 1/2 | 42 3/4  | 33 7/8 | 1 3/4 | 34    | 174              | 31                  |
| 240  | 25 1/2 | 42 3/4  | 33 7/8 | 1 3/4 | 34    | 175              | 31                  |
| 300  | 29     | 50      | 36     | 1 3/4 | 40    | 313              | 37                  |
| 360  | 29 3/8 | 58 5/8  | 39 1/8 | 1 3/4 | 46    | 440              | 43                  |
| 420  | 35 1/4 | 65 3/8  | 44 3/4 | 1 3/4 | 52    | 578              | 49                  |
| 480  | 36     | 74 3/16 | 48 1/8 | 1 3/4 | 58    | 675              | 55                  |



\*Dimensions may be greater depending on motor.

All dimensions in inches. Weights in pounds. Roof opening size for curbs supplied by Larkin only.

### Optional Features:

- Hinge base
- Grease trap
- Grease trap with absorbent material
- Galvanized curb
- NEMA 3R disconnect
- All steel construction

# Exhaust Fan Air Flow Chart in CFM



## Air Flow and RPM at a Specific Static Pressure - Model XRUB

| Catalog Number | Motor HP | 1/2" SP |      |      |       | 5/8" SP |      |      |       | 3/4" SP |      |      |       | 7/8" SP |      |     |       | 1" SP |      |      |       |
|----------------|----------|---------|------|------|-------|---------|------|------|-------|---------|------|------|-------|---------|------|-----|-------|-------|------|------|-------|
|                |          | CFM     | RPM  | BHP  | sones | CFM     | RPM  | BHP  | sones | CFM     | RPM  | BHP  | sones | CFM     | RPM  | BHP | sones | CFM   | RPM  | BHP  | sones |
| XRUB-098-4     | 1/4      | 824     | 1725 | .20  | 12.2  | 712     | 1725 | .20  | 12.1  | 586     | 1725 | .20  | 12.3  | —       | —    | —   | —     | —     | —    | —    | —     |
| XRUB-101-4     | 1/4      | 1189    | 1660 | .26  | 11.3  | 1125    | 1660 | .26  | 10.8  | 1056    | 1660 | .26  | 10.2  | 974     | 1660 | .26 | 9.6   | 861   | 1660 | .25  | 9.4   |
| XRUB-101-3     | 1/3      | 1350    | 1820 | .33  | 12.4  | 1293    | 1820 | .34  | 12    | 1234    | 1820 | .35  | 11.6  | 1184    | 1820 | .35 | 11.3  | 1106  | 1820 | .35  | 10.6  |
| XRUB-121-4     | 1/4      | 1398    | 1410 | .25  | 12.6  | 1315    | 1410 | .26  | 12.7  | 1224    | 1410 | .26  | 12.7  | —       | —    | —   | —     | 965   | 1410 | .25  | 12.3  |
| XRUB-121-3     | 1/3      | 1580    | 1545 | .32  | 14.7  | 1581    | 1545 | .32  | 14.8  | 1441    | 1545 | .34  | 14.9  | —       | —    | —   | —     | 1262  | 1545 | .34  | 14.9  |
| XRUB-121-5     | 1/2      | 1816    | 1725 | .44  | 17.9  | 1763    | 1725 | .45  | 18.2  | 1710    | 1725 | .46  | 18.4  | —       | —    | —   | —     | 1571  | 1725 | .47  | 18.7  |
| XRUB-131-4     | 1/4      | 1458    | 1305 | .26  | 13    | 1340    | 1305 | .26  | 12    | 1201    | 1305 | .26  | 11.5  | 1003    | 1305 | .24 | 10.8  | —     | —    | —    | —     |
| XRUB-131-3     | 1/3      | 1671    | 1435 | .33  | 14.3  | 1586    | 1435 | .34  | 13.8  | 1479    | 1435 | .35  | 13.1  | 1358    | 1435 | .34 | 12.5  | 1198  | 1435 | .33  | 11.9  |
| XRUB-131-5     | 1/2      | 2001    | 1645 | .49  | 16.9  | 1933    | 1645 | .50  | 16.5  | 1864    | 1645 | .51  | 16.1  | 1778    | 1645 | .52 | 15.6  | 1684  | 1645 | .52  | 15.1  |
| XRUB-141-4     | 1/4      | 1515    | 1105 | .26  | 10    | —       | —    | —    | —     | 998     | 1105 | .23  | 9.6   | —       | —    | —   | —     | —     | —    | —    | —     |
| XRUB-141-3     | 1/3      | 1773    | 1210 | .34  | 11.2  | —       | —    | —    | —     | 1443    | 1210 | .34  | 10.9  | —       | —    | —   | —     | —     | —    | —    | —     |
| XRUB-141-5     | 1/2      | 2174    | 1390 | .51  | 12.9  | —       | —    | —    | —     | 1949    | 1390 | .52  | 12.1  | —       | —    | —   | —     | 1643  | 1390 | .51  | 11    |
| XRUB-141-7     | 3/4      | 2602    | 1595 | .75  | 16.1  | —       | —    | —    | —     | 2430    | 1595 | .77  | 13.3  | —       | —    | —   | —     | 2225  | 1595 | .79  | 12.3  |
| XRUB-141-10    | 1        | 2865    | 1725 | .94  | 24    | —       | —    | —    | —     | 2711    | 1725 | .97  | 15.1  | —       | —    | —   | —     | 2539  | 1725 | .99  | 13.4  |
| XRUB-161-4     | 1/4      | 1744    | 875  | .26  | 9.7   | 1365    | 875  | .24  | 9.7   | —       | —    | —    | —     | —       | —    | —   | —     | —     | —    | —    | —     |
| XRUB-161-3     | 1/3      | 2109    | 965  | .35  | 10.8  | 1893    | 965  | .34  | 10.6  | 1584    | 965  | .33  | 10.5  | —       | —    | —   | —     | —     | —    | —    | —     |
| XRUB-161-5     | 1/2      | 2641    | 1110 | .54  | 13.5  | 2475    | 1110 | .53  | 13.1  | 2297    | 1110 | .52  | 12.9  | —       | —    | —   | —     | 1770  | 1110 | .49  | 12.2  |
| XRUB-161-7     | 3/4      | 3172    | 1265 | .79  | 16.8  | 3036    | 1265 | .79  | 16.5  | 2894    | 1265 | .79  | 16.3  | —       | —    | —   | —     | 2583  | 1265 | .78  | 15.8  |
| XRUB-161-10    | 1        | 3584    | 1390 | 1.04 | 19.9  | 3464    | 1390 | 1.04 | 19.6  | 3340    | 1390 | 1.05 | 19.4  | —       | —    | —   | —     | 3078  | 1390 | 1.04 | 19    |
| XRUB-180-5     | 1/2      | 2879    | 940  | .52  | 12.4  | —       | —    | —    | —     | 2363    | 940  | .50  | 11.2  | —       | —    | —   | —     | —     | —    | —    | —     |
| XRUB-180-7     | 3/4      | 3554    | 1075 | .78  | 15.5  | —       | —    | —    | —     | 3141    | 1075 | .78  | 14.7  | —       | —    | —   | —     | 2652  | 1075 | .75  | 13.3  |
| XRUB-180-10    | 1        | 4005    | 1185 | 1.01 | 16.5  | —       | —    | —    | —     | 3703    | 1185 | 1.04 | 16.0  | —       | —    | —   | —     | 3336  | 1185 | 1.04 | 15.2  |
| XRUB-180-15    | 1 1/2    | 4710    | 1360 | 1.49 | 21    | —       | —    | —    | —     | 4532    | 1360 | 1.56 | 21    | —       | —    | —   | —     | 4232  | 1360 | 1.58 | 20    |
| XRUB-180-20    | 2        | 5254    | 1495 | 1.96 | 26    | —       | —    | —    | —     | 5082    | 1495 | 2.02 | 25    | —       | —    | —   | —     | 4921  | 1495 | 2.10 | 25    |
| XRUB-200-7     | 3/4      | 3922    | 875  | .79  | 13.5  | —       | —    | —    | —     | 3240    | 875  | .78  | 12.4  | —       | —    | —   | —     | —     | —    | —    | —     |

### NOTE:

1. Performance certified is for installation type A: Free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The sound ratings shown are loudness values in fan sones at 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for: Installation Type A: free inlet hemispherical sone levels.

## Exhaust Fan Air Flow Chart in CFM



**Air Flow and RPM at a Specific Static Pressure - Model XRUB**

| Catalog Number | Motor HP | 1/2" SP |      |      |       | 5/8" SP |     |      |       | 3/4" SP |      |      |       | 7/8" SP |     |     |       | 1" SP |      |      |       |
|----------------|----------|---------|------|------|-------|---------|-----|------|-------|---------|------|------|-------|---------|-----|-----|-------|-------|------|------|-------|
|                |          | CFM     | RPM  | BHP  | sones | CFM     | RPM | BHP  | sones | CFM     | RPM  | BHP  | sones | CFM     | RPM | BHP | sones | CFM   | RPM  | BHP  | sones |
| XRUB-200-10    | 1        | 4508    | 960  | 1.04 | 16.4  | —       | —   | —    | —     | 3985    | 960  | 1.04 | 15    | —       | —   | —   | —     | 3169  | 960  | 1.00 | 14.4  |
| XRUB-200-15    | 1 1/2    | 5421    | 1100 | 1.55 | 21    | —       | —   | —    | —     | 5006    | 1100 | 1.57 | 20    | —       | —   | —   | —     | 4529  | 1100 | 1.57 | 19.3  |
| XRUB-200-20    | 2        | 6108    | 1210 | 2.07 | 22    | —       | —   | —    | —     | 5748    | 1210 | 2.09 | 21    | —       | —   | —   | —     | 5350  | 1210 | 2.09 | 21    |
| XRUB-220-20    | 2        | 6799    | 955  | 2.02 | 23    | 6580    | 955 | 2.05 | 23    | 6347    | 955  | 2.07 | 22    | —       | —   | —   | —     | 5844  | 955  | 2.11 | 20    |
| XRUB-240-20    | 2        | 7536    | 930  | 2.03 | 22    | 7233    | 930 | 2.06 | 21    | 6953    | 930  | 2.08 | 19.9  | —       | —   | —   | —     | 6375  | 930  | 2.10 | 18.7  |
| XRUB-300-20    | 2        | 9411    | 665  | 2.02 | 17.5  | —       | —   | —    | —     | 8495    | 665  | 2.07 | 16.7  | —       | —   | —   | —     | 7271  | 665  | 2.04 | 15.1  |
| XRUB-300-30    | 3        | 11273   | 765  | 3.00 | 22    | —       | —   | —    | —     | 10554   | 765  | 3.09 | 21    | —       | —   | —   | —     | 9743  | 765  | 3.15 | 20    |
| XRUB-300-50    | 5        | 12808   | 850  | 4.05 | 26    | —       | —   | —    | —     | 11145   | 795  | 3.46 | 25    | —       | —   | —   | —     | 10404 | 795  | 3.53 | 25    |
| XRUB-360-30    | 3        | 13783   | 580  | 3.02 | 22    | —       | —   | —    | —     | 12597   | 580  | 3.10 | 21    | —       | —   | —   | —     | 11287 | 580  | 3.13 | 20    |
| XRUB-420-30    | 3        | 15691   | 440  | 2.98 | 14.6  | —       | —   | —    | —     | 13652   | 440  | 3.07 | 12.8  | —       | —   | —   | —     | 10151 | 440  | 2.82 | 10.6  |
| XRUB-480-30    | 3        | 17848   | 360  | 3.10 | 14.7  | 16410   | 360 | 3.12 | 13.7  | 14749   | 360  | 3.08 | 12.7  | —       | —   | —   | —     | —     | —    | —    | —     |
| XRUB-480-50    | 5        | 22764   | 425  | 4.98 | 19.4  | 21766   | 425 | 5.09 | 18.7  | 20556   | 425  | 5.12 | 17.7  | —       | —   | —   | —     | 17922 | 425  | 5.09 | 15.6  |

### NOTE:

1. Performance certified is for installation type A: Free inlet, free outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The sound ratings shown are loudness values in fan sones at 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for: Installation Type A: free inlet hemispherical sone levels.

### NOTE:

1. This is a quick select chart only, if you need a fan selection that is not on this chart - please call Larkin Industries, Inc.
2. All the above fans are UL Listed 762 for the, removal of smoke & grease laden vapors.

*Due to wide variations in state, county, and city codes, Larkin Industries, Inc. will not be responsible for the approval of any exhaust fan units. Consult your local codes for specific exhaust fan requirements and accessories.*



## Exhaust Fan and Curb Weights

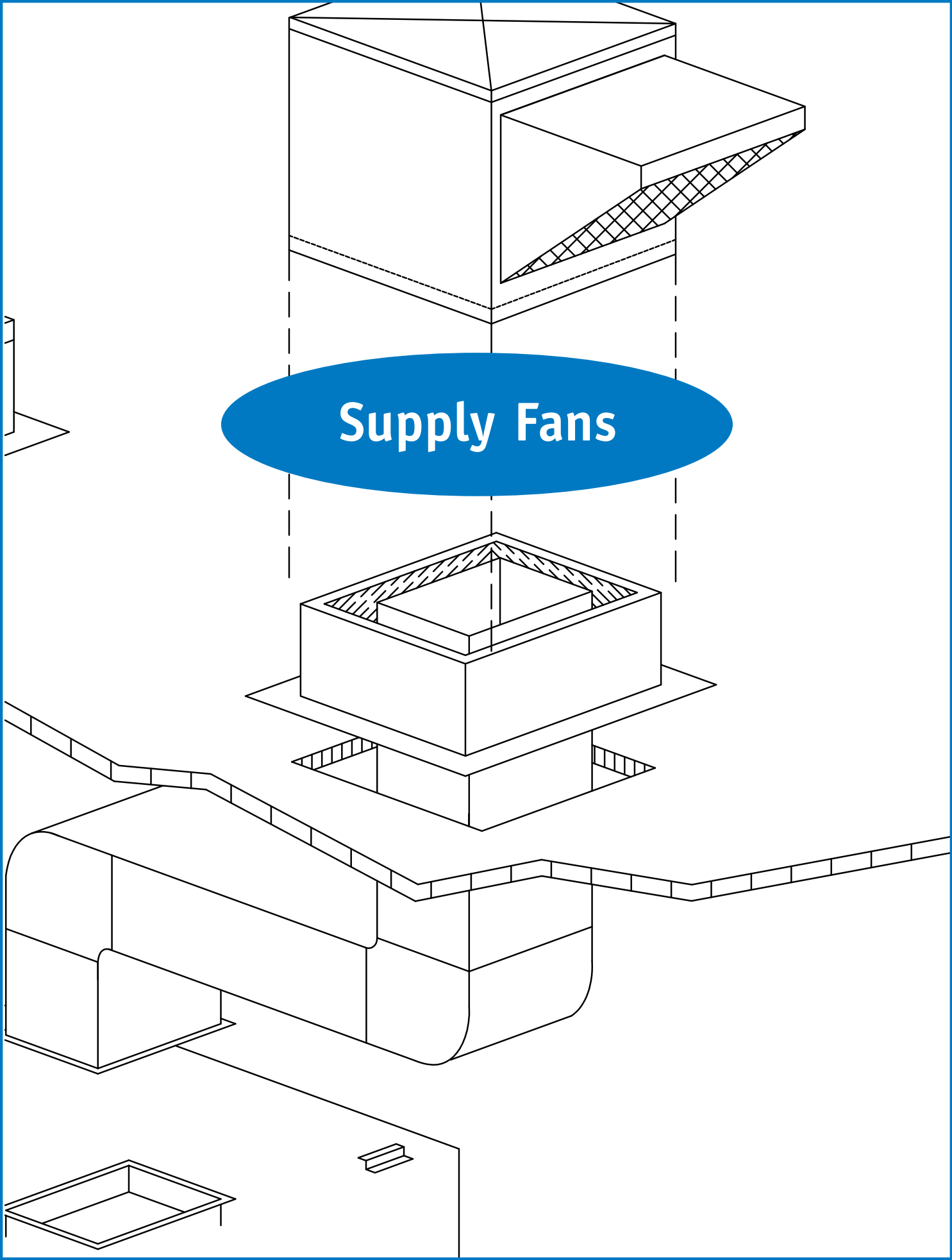


### Exhaust Fan Weight Chart XRUB

| Model       | Weight | Model       | Weight |
|-------------|--------|-------------|--------|
| XRUB-098-4  | 58     | XRUB-180-5  | 95     |
| XRUB-101-4  | 58     | XRUB-180-7  | 99     |
| XRUB-101-3  | 59     | XRUB-180-10 | 104    |
| XRUB-121-4  | 61     | XRUB-180-15 | 116    |
| XRUB-121-3  | 62     | XRUB-180-20 | 126    |
| XRUB-121-5  | 66     | XRUB-200-7  | 115    |
| XRUB-131-4  | 61     | XRUB-200-10 | 120    |
| XRUB-131-3  | 62     | XRUB-200-15 | 132    |
| XRUB-131-5  | 66     | XRUB-200-20 | 142    |
| XRUB-141-4  | 70     | XRUB-220-20 | 174    |
| XRUB-141-3  | 71     | XRUB-240-20 | 175    |
| XRUB-141-5  | 75     | XRUB-300-20 | 273    |
| XRUB-141-7  | 79     | XRUB-300-30 | 286    |
| XRUB-141-10 | 84     | XRUB-300-50 | 313    |
| XRUB-161-4  | 72     | XRUB-360-30 | 413    |
| XRUB-161-3  | 73     | XRUB-420-30 | 526    |
| XRUB-161-5  | 77     | XRUB-480-30 | 623    |
| XRUB-161-7  | 82     | XRUB-480-50 | 650    |
| XRUB-161-10 | 87     |             |        |

### Exhaust Curb Weight Chart

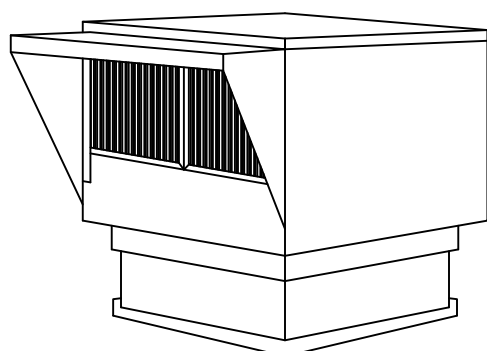
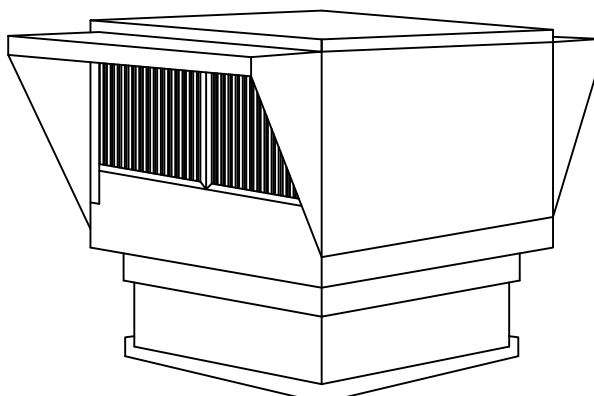
| Model ACRUB | Size            | Weight | Model    | Size            | Weight |
|-------------|-----------------|--------|----------|-----------------|--------|
| XRUB-098    | 18" x 18" x 26" | 46     | XRUB-200 | 29" x 29" x 22" | 67     |
| XRUB-101    | 18" x 18" x 26" | 46     | XRUB-220 | 33" x 33" x 18" | 68     |
| XRUB-121    | 18" x 18" x 26" | 46     | XRUB-240 | 33" x 33" x 18" | 68     |
| XRUB-131    | 18" x 18" x 26" | 46     | XRUB-300 | 39" x 39" x 14" | 70     |
| XRUB-141    | 21" x 21" x 24" | 53     | XRUB-360 | 45" x 45" x 14" | 75     |
| XRUB-161    | 21" x 21" x 24" | 53     | XRUB-420 | 51" x 51" x 14" | 80     |
| XRUB-180    | 29" x 29" x 22" | 67     | XRUB-480 | 57" x 57" x 14" | 85     |



The diagram is an exploded view of a supply fan assembly. At the top is a rectangular box with a tapered, cross-hatched section on its right side. Below it is a blue oval containing the text "Supply Fans". Underneath the oval is a square frame with a cross-hatched interior. Below that is a larger rectangular box with a square opening in its top surface. At the bottom is a long, low, rectangular duct with rounded ends. To the left of the duct is a small square frame, and to the right is a small rectangular component. Dashed lines connect the top box to the square frame, and the square frame to the larger box, indicating their assembly relationship.

## Supply Fans

## Supply Fans



| Model  | CFM Range    |
|--------|--------------|
| ARS 9  | 500 - 1600   |
| ARS 10 | 800 - 2400   |
| ARS 12 | 1600 - 3200  |
| ARS 15 | 3000 - 5000  |
| ARS 18 | 4500 - 7500  |
| ARS 20 | 5000 - 12000 |

The ARS line of make-up air fans are designed to deliver fresh un-tempered outside air. The ARS line of fans are built to last and constructed of galvanized steel and weather tight fasteners. These fans carry a 1 year warranty with a 3 year motor warranty. Units range from 500 to 12000 CFM

### Features

- Designed for kitchen ventilation and make-up air
- Rooftop installation, slab mount or wall mount
- Heavy gauge galvanized screwed together construction
- Removable top
- Quiet blower
- Aluminum mesh filters
- Disconnect switch
- Roof curb
- Easy installation
- Easy maintenance
- No painting necessary
- ETL Listed
- Vibration isolation
- High efficiency motors
- Variable pitch motor pulleys that allow for field adjustments

### Options

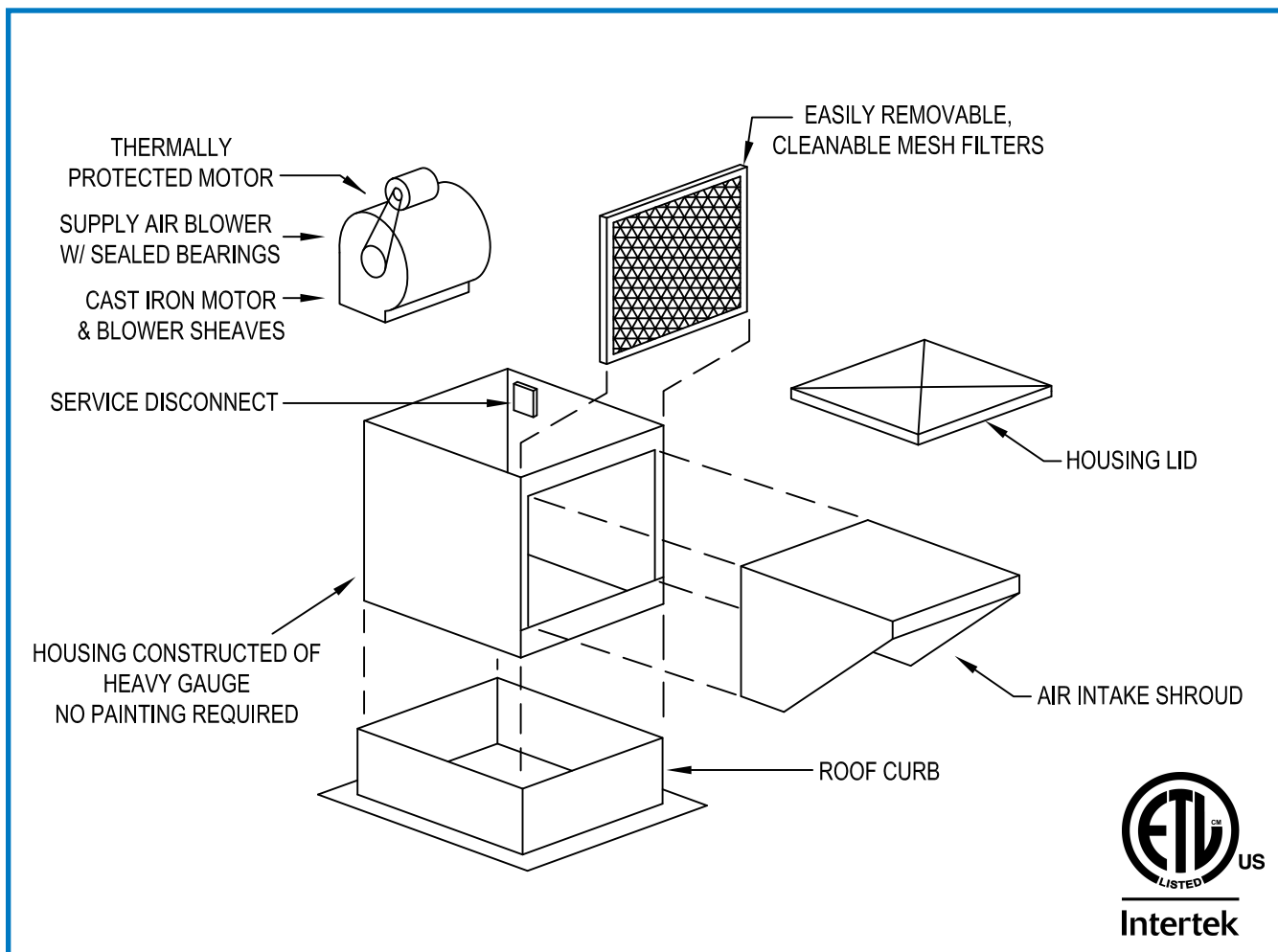
- Insulated roof curbs
- Down discharge or side discharge
- Gravity intake dampers
- Motorized intake dampers
- Wall mount platforms
- 2 speed

## Larkin Industries, Inc.

114 David Green Road  
Birmingham, AL 35244  
Phone: 1-205-987-1535  
Fax: 1-205-987-0583  
Toll Free: 1-800-322-4036  
E-mail: sales@larkinhoods.com  
www.larkinhoods.com



## ARS Supply Fan



### ARS Supply Fan Specifications

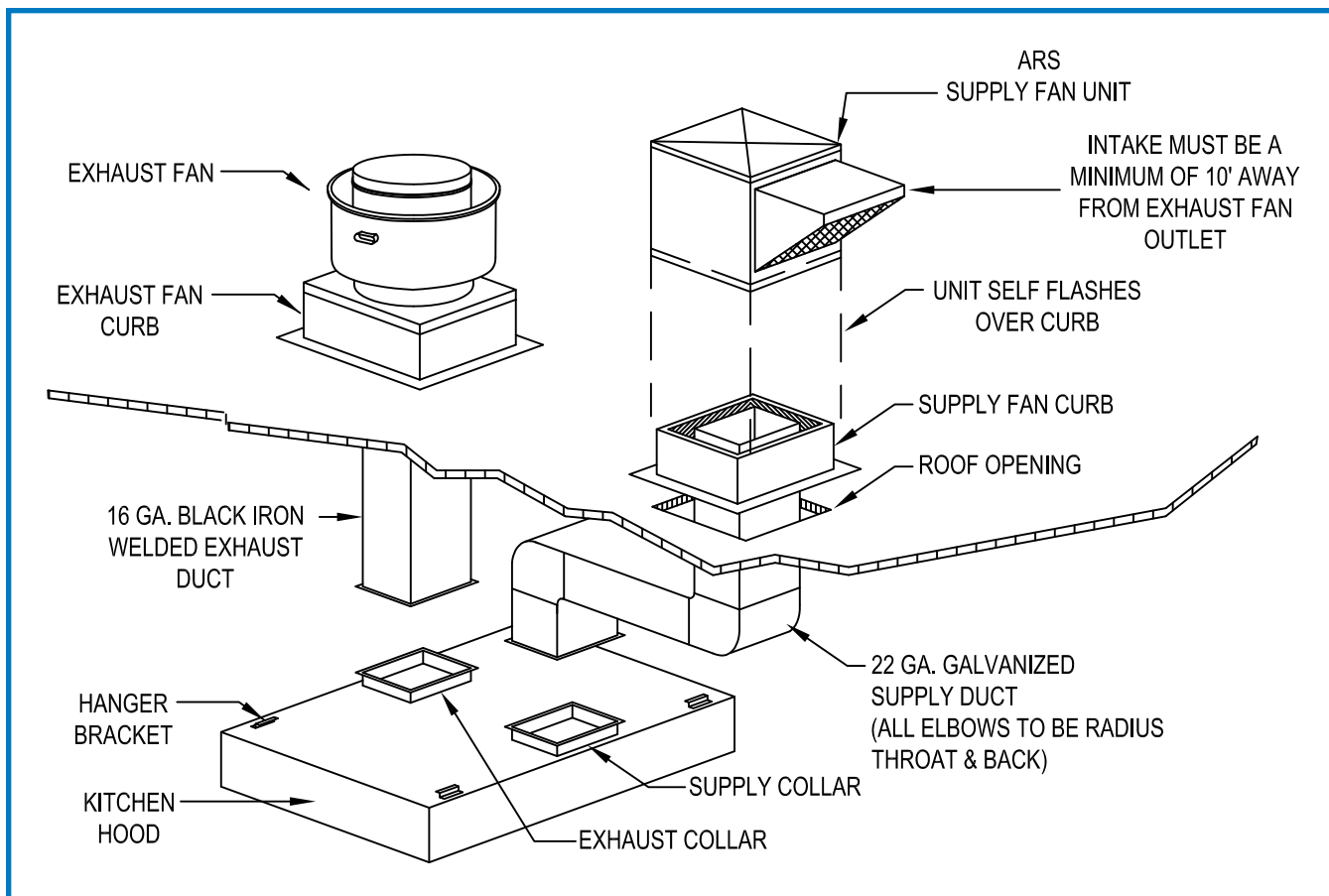
The supply fan unit shall be of the belt-driven, double inlet, forward curved centrifugal blower type. The blower assembly shall be mounted on vibration insulators. Drives shall be sized for a minimum of 150% of driven horsepower. Motor shall be continuous duty, double sealed bearings thermally protected, resilient mount base, open drip proof and be UL recognized. All exterior housing components of the supply unit shall be constructed of heavy gauge galvanized steel. No painting is required. The unit shall have a service access. The inlet of the unit shall contain a bank of washable, removable air filters. Filters shall be aluminum mesh type. The total fan pack-

age shall be furnished with a prewired disconnect for main power connection. All electrical components shall be UL listed, approved or classified where applicable and wired in compliance with the National Electrical Code. Wiring shall be complete, requiring only one-point field connection for power service.

Supply fan unit shall be ETL-705 Listed.

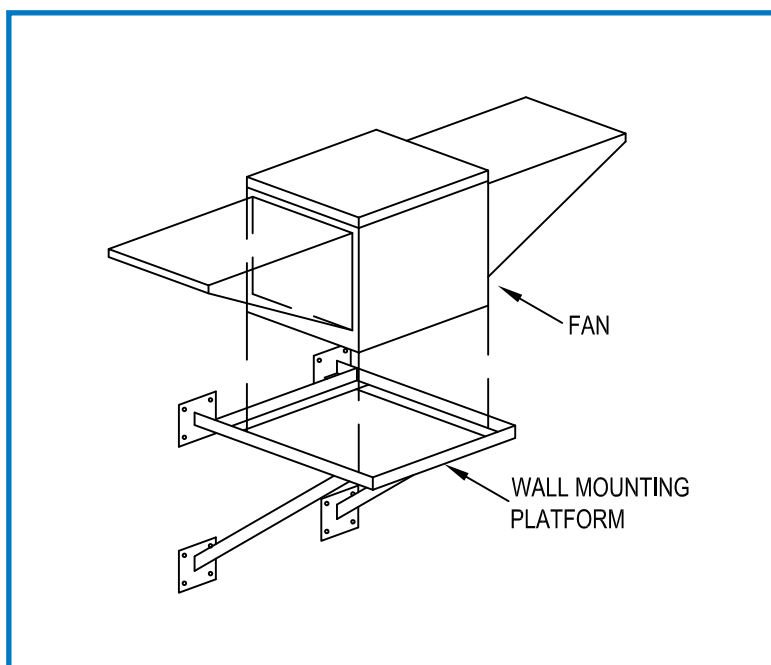
Supply fan unit shall be model ARS series as manufactured by Larkin Industries, Inc. 1-800-322-4036

## Roof Mount ARS

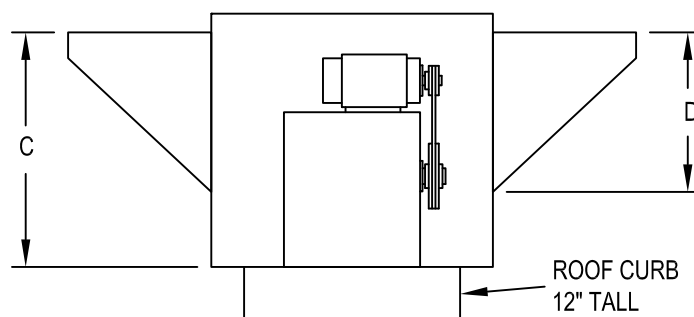
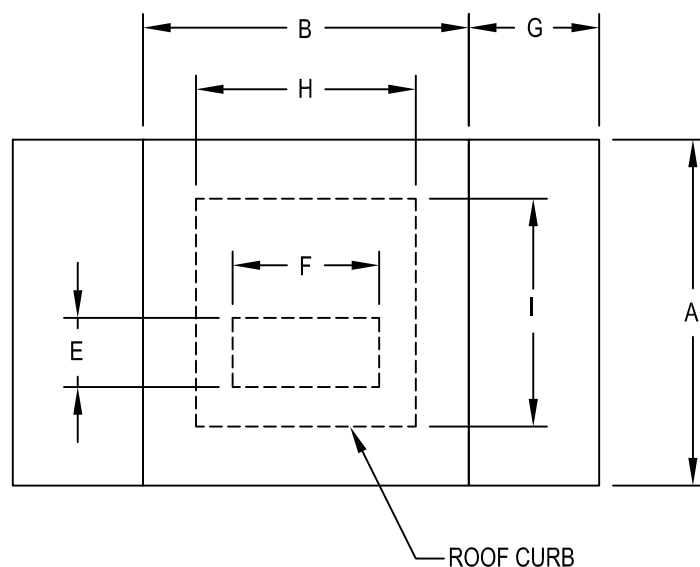


## Wall Mount ARS

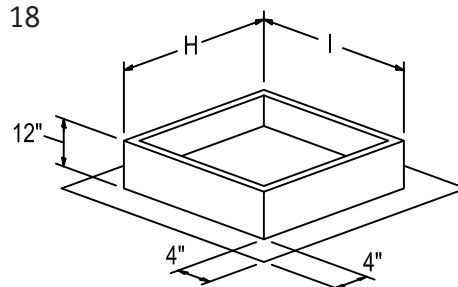
*Side or Bottom Discharge*



# ARS Supply Fan Dimensional Data



**Note:** Double inlets on ARS 15 and ARS 18



| Fan Dimensional Data |     |     |     |     |          |           |     | Curb Size |     | Filter Sizes    |
|----------------------|-----|-----|-----|-----|----------|-----------|-----|-----------|-----|-----------------|
| Model                | A   | B   | C   | D   | E        | F         | G   | H         | I   |                 |
| ARS 9                | 24" | 24" | 30" | 25" | 10 1/4"  | 11 13/16" | 18" | 23"       | 23" | (1) 20 x 20 x 1 |
| ARS 10               | 34" | 34" | 35" | 30" | 11 1/8"  | 13 1/8"   | 18" | 33"       | 33" | (2) 16 x 25 x 1 |
| ARS 12               | 34" | 34" | 35" | 30" | 13 7/16" | 15 5/8"   | 18" | 33"       | 33" | (2) 16 x 25 x 1 |
| ARS 15               | 34" | 34" | 35" | 30" | 15 7/8"  | 18 5/8"   | 18" | 33"       | 33" | (4) 16 x 25 x 1 |
| ARS 18               | 42" | 42" | 43" | 30" | 18 7/8"  | 21 7/8"   | 18" | 41"       | 41" | (4) 20 x 25 x 1 |

# Supply Fan Performance Data



| Capacity<br>CFM | Outlet-V<br>FPM | 1/8" SP |      | 1/4" SP |      | 3/8" SP |      | 1/2" SP |      | 5/8" SP |      | 3/4" SP |      | 1" SP |      |
|-----------------|-----------------|---------|------|---------|------|---------|------|---------|------|---------|------|---------|------|-------|------|
|                 |                 | RPM     | HP   | RPM     | HP   | RPM     | HP   | RPM     | HP   | RPM     | HP   | RPM     | HP   | RPM   | HP   |
| <b>ARS - 9</b>  |                 |         |      |         |      |         |      |         |      |         |      |         |      |       |      |
| 500             | 595             | 402     | .02  | 558     | .04  | 690     | .06  | 792     | .08  | 890     | .11  | 954     | .13  | 1088  | .17  |
| 600             | 714             | 412     | .03  | 559     | .05  | 692     | .07  | 795     | .10  | 899     | .13  | 968     | .15  | 1105  | .20  |
| 700             | 833             | 441     | .04  | 572     | .06  | 690     | .08  | 790     | .11  | 899     | .15  | 974     | .17  | 1119  | .23  |
| 800             | 952             | 469     | .05  | 584     | .07  | 698     | .10  | 787     | .12  | 897     | .17  | 971     | .19  | 1125  | .26  |
| 1000            | 1190            | 519     | .09  | 621     | .11  | 710     | .15  | 810     | .18  | 900     | .20  | 965     | .23  | 1110  | .30  |
| 1200            | 1429            | 595     | .14  | 670     | .16  | 750     | .20  | 836     | .23  | 910     | .28  | 989     | .31  | 1117  | .37  |
| 1400            | 1667            | 680     | .21  | 726     | .23  | 800     | .28  | 876     | .31  | 950     | .36  | 1014    | .39  | 1144  | .49  |
| 1600            | 1905            | 750     | .31  | 796     | .33  | 860     | .39  | 923     | .41  | 998     | .57  | 1048    | .49  | 1168  | .59  |
| <b>ARS - 10</b> |                 |         |      |         |      |         |      |         |      |         |      |         |      |       |      |
| 800             | 769             | 375     | .04  | 449     | .06  | 600     | .09  | 694     | .12  | 790     | .16  | 865     | .19  |       |      |
| 1000            | 962             | 403     | .07  | 520     | .09  | 605     | .12  | 699     | .15  | 780     | .19  | 848     | .22  | 996   | .30  |
| 1200            | 1154            | 450     | .10  | 546     | .12  | 630     | .17  | 713     | .19  | 780     | .22  | 855     | .26  | 979   | .35  |
| 1400            | 1346            | 498     | .14  | 580     | .17  | 651     | .20  | 734     | .25  | 803     | .30  | 865     | .33  | 987   | .41  |
| 1600            | 1538            | 547     | .20  | 621     | .23  | 690     | .28  | 758     | .31  | 828     | .38  | 889     | .41  | 997   | .49  |
| 1800            | 1731            | 600     | .27  | 664     | .30  | 728     | .37  | 789     | .39  | 850     | .45  | 908     | .49  | 1021  | .60  |
| 2000            | 1923            | 651     | .36  | 708     | .39  | 760     | .45  | 824     | .49  | 879     | .53  | 934     | .60  | 1040  | .71  |
| 2200            | 2115            | 709     | .47  | 755     | .49  | 811     | .53  | 864     | .61  | 920     | .69  | 965     | .72  | 1063  | .84  |
| 2400            | 2308            | 760     | .53  | 805     | .62  | 857     | .71  | 908     | .75  | 955     | .84  | 999     | .86  | 1092  | 1.00 |
| <b>ARS - 12</b> |                 |         |      |         |      |         |      |         |      |         |      |         |      |       |      |
| 1600            | 1096            | 400     | .11  | 488     | .16  | 567     | .20  | 642     | .25  | 715     | .30  | 773     | .36  | 899   | .49  |
| 1800            | 1233            | 429     | .16  | 507     | .20  | 588     | .26  | 653     | .30  | 722     | .38  | 780     | .41  | 892   | .54  |
| 2000            | 1370            | 456     | .20  | 529     | .25  | 600     | .30  | 669     | .36  | 745     | .42  | 788     | .48  | 898   | .61  |
| 2200            | 1507            | 491     | .26  | 554     | .30  | 624     | .38  | 685     | .43  | 750     | .50  | 799     | .55  | 905   | .69  |
| 2400            | 1644            | 521     | .31  | 580     | .37  | 648     | .44  | 702     | .50  | 761     | .57  | 815     | .64  | 914   | .78  |
| 2600            | 1781            | 551     | .40  | 608     | .44  | 660     | .51  | 723     | .59  | 773     | .69  | 831     | .74  | 927   | .88  |
| 2800            | 1918            | 590     | .49  | 637     | .53  | 697     | .65  | 745     | .68  | 800     | .76  | 847     | .84  | 943   | 1.00 |
| 3000            | 2055            | 624     | .54  | 667     | .63  | 720     | .73  | 769     | .79  | 825     | .91  | 866     | .96  | 959   | 1.13 |
| 3200            | 2192            | 651     | .70  | 698     | .74  | 750     | .81  | 795     | .91  | 849     | 1.01 | 900     | 1.41 | 990   | 1.66 |
| <b>ARS - 15</b> |                 |         |      |         |      |         |      |         |      |         |      |         |      |       |      |
| 3000            | 1456            | 410     | .40  | 467     | .47  | 515     | .53  | 578     | .66  | 649     | .79  | 706     | .94  | 791   | 1.17 |
| 3200            | 1553            | 438     | .45  | 485     | .55  | 525     | .68  | 584     | .73  | 647     | .81  | 708     | 1.01 | 805   | 1.29 |
| 3400            | 1650            | 456     | .53  | 504     | .64  | 549     | .74  | 594     | .74  | 649     | .98  | 707     | 1.09 | 813   | 1.41 |
| 3600            | 1748            | 490     | .73  | 524     | .74  | 568     | .81  | 607     | .92  | 651     | 1.11 | 707     | 1.17 | 817   | 1.52 |
| 3800            | 1845            | 509     | .79  | 544     | .85  | 590     | 1.01 | 622     | 1.04 | 663     | 1.25 | 710     | 1.27 | 818   | 1.61 |
| 4000            | 1942            | 523     | .83  | 564     | .97  | 600     | 1.10 | 639     | 1.16 | 675     | 1.31 | 718     | 1.39 | 816   | 1.71 |
| 4200            | 2039            | 539     | .95  | 582     | 1.09 | 611     | 1.19 | 657     | 1.30 | 691     | 1.43 | 729     | 1.53 | 817   | 1.83 |
| 4400            | 2136            | 563     | 1.10 | 603     | 1.23 | 640     | 1.30 | 675     | 1.46 | 715     | 1.57 | 743     | 1.68 | 821   | 1.97 |
| 4600            | 2233            | 600     | 1.32 | 626     | 1.39 | 665     | 1.53 | 693     | 1.62 | 730     | 1.81 | 758     | 1.85 | 829   | 2.13 |
| 4800            | 2330            | 633     | 1.52 | 651     | 1.57 | 691     | 1.80 | 712     | 1.80 | 753     | 2.03 | 775     | 2.04 | 839   | 2.31 |
| 5000            | 2427            | 644     | 1.60 | 675     | 1.77 | 700     | 1.91 | 732     | 1.99 | 761     | 2.10 | 792     | 2.24 | 852   | 2.51 |
| <b>ARS - 18</b> |                 |         |      |         |      |         |      |         |      |         |      |         |      |       |      |
| 4500            | 1552            | 410     | .71  | 454     | .77  | 500     | .89  | 543     | 1.03 | 588     | 1.21 | 621     | 1.29 | 696   | 1.59 |
| 5000            | 1724            | 449     | .88  | 485     | 1.00 | 527     | 1.19 | 566     | 1.28 | 609     | 1.48 | 646     | 1.58 | 707   | 1.86 |
| 5500            | 1897            | 448     | 1.20 | 520     | 1.28 | 557     | 1.48 | 590     | 1.56 | 637     | 1.78 | 665     | 1.89 | 733   | 2.22 |
| 6000            | 2069            | 525     | 1.50 | 553     | 1.60 | 588     | 1.77 | 619     | 1.91 | 656     | 2.11 | 688     | 2.26 | 755   | 2.62 |
| 6500            | 2241            | 556     | 1.91 | 585     | 1.97 | 624     | 2.19 | 650     | 2.30 | 679     | 2.57 | 711     | 2.67 | 774   | 3.05 |
| 7000            | 2414            | 600     | 2.30 | 620     | 2.40 | 653     | 2.79 | 681     | 2.75 | 713     | 3.00 | 737     | 3.13 | 798   | 3.55 |
| 7500            | 2586            | 640     | 2.91 | 657     | 2.91 | 691     | 3.11 | 716     | 3.29 | 747     | 3.59 | 768     | 3.67 | —     | —    |
| <b>ARS - 20</b> |                 |         |      |         |      |         |      |         |      |         |      |         |      |       |      |
| 5000            | 1175            | 305     | .47  | 345     | .49  | 390     | .67  | 430     | .79  | 465     | .89  | 505     | 1.03 | 555   | 1.19 |
| 7500            | 1762            | 430     | 1.24 | 450     | 1.39 | 470     | 1.56 | 510     | 1.85 | 560     | 2.00 | 615     | 2.17 | 620   | 2.67 |
| 10000           | 2350            | 550     | 2.83 | 570     | 3.00 | 590     | 3.24 | 635     | 3.50 | 650     | 3.66 | 700     | 3.86 | 710   | 4.32 |
| 12000           | 2850            | 650     | 4.88 | 665     | 5.00 | 690     | 5.39 | 735     | 5.54 | 745     | 6.15 | —       | —    | —     | —    |

## Supply Fan and Curb Weights



**ARS Supply Fan Weight Chart**

| Model  | HP    | Weight | Model  | HP    | Weight |
|--------|-------|--------|--------|-------|--------|
| ARS-10 | 1/6   | 190    | ARS-15 | 1     | 245    |
| ARS-10 | 1/4   | 198    | ARS-15 | 1 1/2 | 295    |
| ARS-10 | 1/3   | 200    | ARS-15 | 2     | 330    |
| ARS-10 | 1/2   | 205    | ARS-15 | 3     | 345    |
| ARS-10 | 3/4   | 210    | ARS-18 | 1/2   | 320    |
| ARS-12 | 1/4   | 210    | ARS-18 | 3/4   | 325    |
| ARS-12 | 1/3   | 215    | ARS-18 | 1     | 330    |
| ARS-12 | 1/2   | 220    | ARS-18 | 1 1/2 | 335    |
| ARS-12 | 3/4   | 225    | ARS-18 | 2     | 350    |
| ARS-12 | 1     | 230    | ARS-18 | 3     | 360    |
| ARS-12 | 1 1/2 | 235    | ARS-20 | 1 1/2 | 410    |
| ARS-15 | 1/3   | 220    | ARS-20 | 2     | 420    |
| ARS-15 | 1/2   | 225    | ARS-20 | 3     | 440    |
| ARS-15 | 3/4   | 235    | ARS-20 | 5     | 490    |

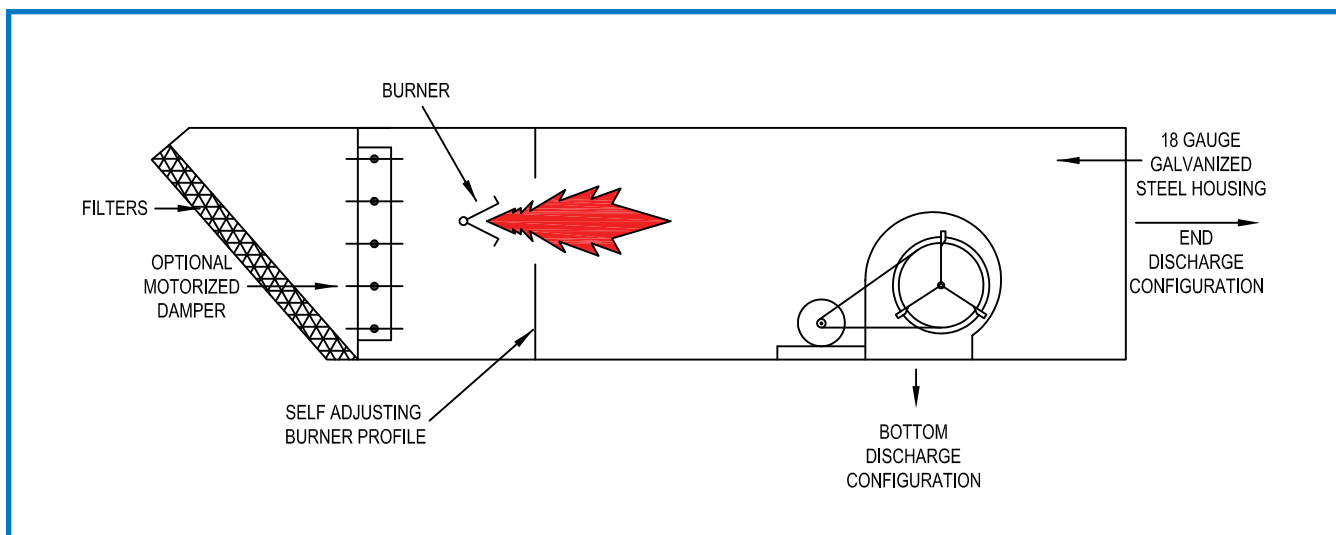
**ARS Roof Curb Weight Chart**

| Model    | Size                 | Weight |
|----------|----------------------|--------|
| 9        | 23" Sq. x 12" Tall   | 20     |
| 10-12-15 | 33" Sq. x 12" Tall   | 38     |
| 18       | 41" Sq. x 12" Tall   | 49     |
| 20       | 41" x 51" x 12" Tall | 60     |

*\*Consult factory for exact weights.*



## Direct Gas Fired Heated Packages



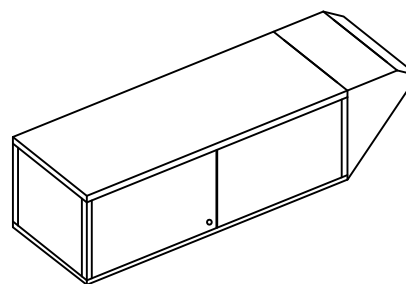
### Direct fired Package

Direct Gas fired heaters from 800 to 12000 CFM

### Make-Up Air

Larkin Industries, Inc. offers a new line of competitively priced Gas Fired Make-Up Air Units with many unique features that provide easier installation, quicker start-up and longer life. The Direct Fired Package is designed to provide year-round ventilation and tempered make-up air for a wide variety of commercial kitchen applications. It is also available with Variable Frequency Drive (VFD) control to respond to varying air needs in order to reduce operating costs. DX or chilled water coils and evaporative cooling options can also be specified.

Direct gas-fired technology is the most energy efficient choice for heating make-up air because it does not use a flue or heat exchanger. The gas is burned directly in the air stream being heated. That means 100% of the available heat (every BTU of gas burned) is then delivered directly and efficiently to the building. Any size building with a commercial kitchen operation that exhausts a large volume of air during the heating season creates the need for an energy efficient Direct Gas-Fired Make-Up Air Heater.



### Larkin Heated Packages Offer these Advantages

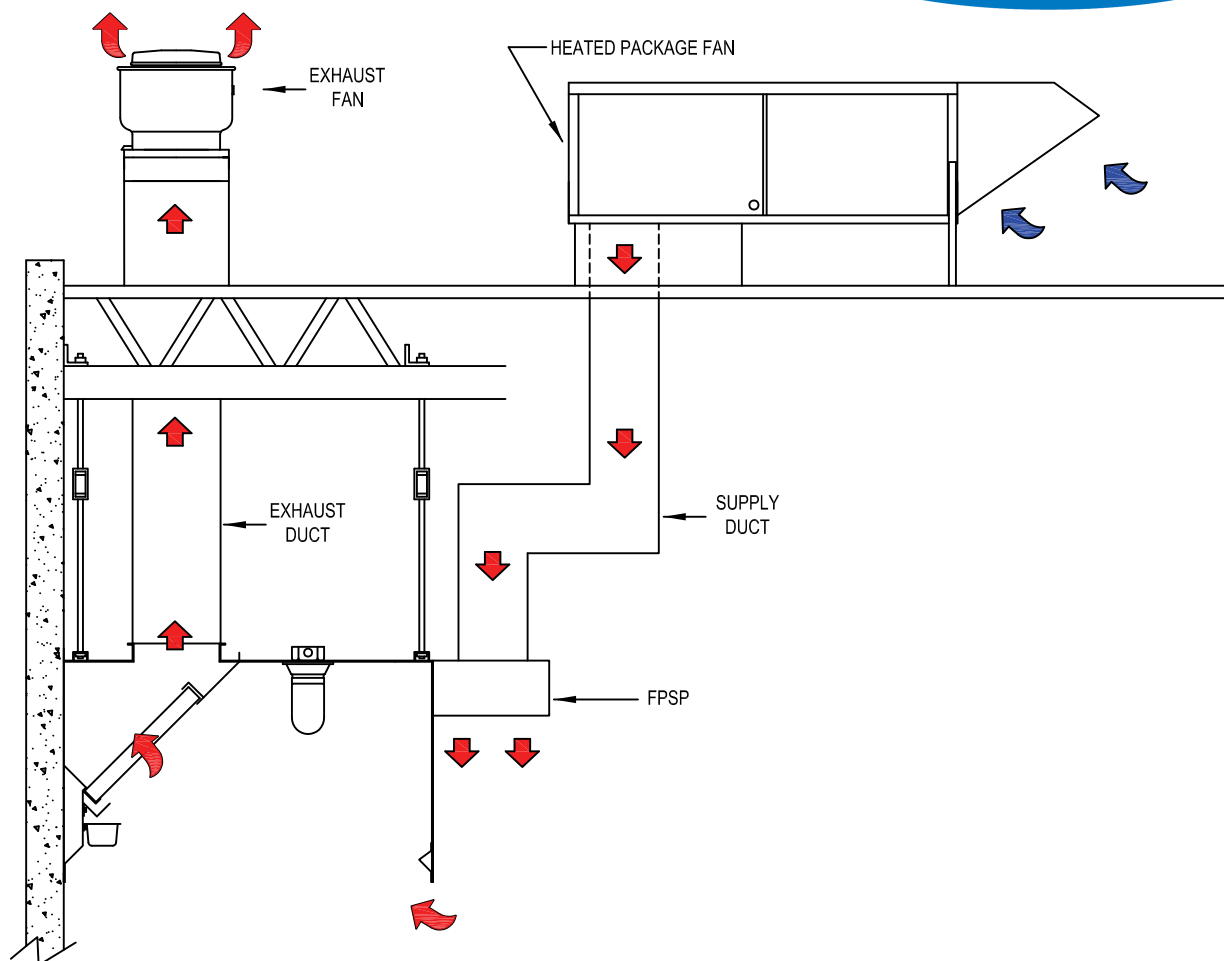
- Economy through standardization
- Heaters are pre-piped and pre-wired; they feature unit mounted controls for quick, economical installation
- All models suitable for indoor or outdoor installation
- Gas units operate on natural or LP gas
- ANSI Design Certification
- Insulated Cabinet
- Maxitrol Series 14 Discharge Control
- Low Voltage Hot Surface Igniter
- Stainless Steel Burner and Flame Rod
- Integral Pressure Gauge

### Optional Features

- Natural Gas, LP Gas or Propane Air Burners
- Maxitrol Series 44 Space Temperature Control
- FM or IRI Insurance Specification Manifold
- Motorized Inlet and Discharge Dampers
- Full Flat or Pitched Roof Curb
- Disconnect Switch (Fused)

*NOTE: Exact airflow and dimensional data will be provided per job requirements.*

## Direct Gas Fired Heated Packages



### Additional Options Include

- Variable Air Volume System is available with optional VFD (Variable Frequency Drive) to provide the most energy efficient way to compensate for varying amounts of exhausted air
- Programmable Logic Controllers (PLC)
- Cooling Options: DX or Chilled Water Coils and Evaporative Cooling
- High Quality Polyester Powder Paint Coating
- All Aluminum Cabinets

### Reliability

- Stainless steel burner and flame rod reduce maintenance and provide longer service life
- Shielded and ventilated motor assembly extends motor life

### Performance

- No wasted energy because this direct gas-fired heater design does not require a flue or heat exchanger. 100% of available BTUs are delivered to the building.
- Most cost effective way to provide a large volume of clean, tempered ventilation air that will improve indoor air quality and offset building exhaust loads during the heating season.

# Un-Tempered Rooftop Package



## Specifications

The Model ARS-P Rooftop Package is an exhaust and supply air unit integrated into a single package. The unit shall be constructed of heavy gauge galvanized steel; all seams shall be sealed to assure watertightness and durability. Only one roof opening shall be required per package.

### Exhaust

The exhaust air side of the package shall utilize a grease-trap design, centrifugal, upblast exhaust fan. The fan shall be specifically designed to work with the rest of the package both physically and functionally. An open, drip-proof motor, adjustable cast iron pulleys and heavy duty belt shall be standard on all units. The fan shall carry the UL 762 label. Each fan shall bear the AMCA Certified Ratings Seal for sound and air performance.

*NOTE: The rooftop package is not certified by AMCA. Only the Exhaust ventilator is licensed to bear the AMCA certification rating seal for sound and air performance.*

### Supply

The supply air side of the package shall utilize a belt-driven, double Inlet, forward curved centrifugal blower type. The blower assembly shall be mounted on vibration isolators. Drives shall be sized for a minimum of 150% of driven horsepower. Motor shall be continuous duty, double sealed bearings thermally protected, resilient mount base, open drip proof and UL recognized. The supply air section of the unit shall be covered by a removable lid and be ETL 705 Listed.

### Wiring

The entire rooftop package shall be factory prewired with input power connections dropping through the unit. Pitch pockets are not required. Wiring to the motors is accomplished with a length of flexible conduit, which will enter through the bottom of the unit into the supply fan area. Wiring for the supply fan motor shall run through an internal service disconnect switch and connect to the motor through flexible conduit. Wiring for the exhaust fan shall run through weatherproof conduit to an external service disconnect switch mounted on the fan. Optional motor starter, if required, shall be installed in the custom wiring package on the hood. Single phase motors are available in 120/220 volt and have built-in automatic reset thermal overloads. Three phase motors are available in 208/220/440 volts.

### Trunkline

Supply air trunkline shall be constructed of the same material as the main package and shall include 1' washable, removable mesh filter(s) angled downward to prevent water entry into the unit. Upon final assembly of the package, the supply air inlet and exhaust air outlet shall be separated by 10 feet to meet the code requirements.

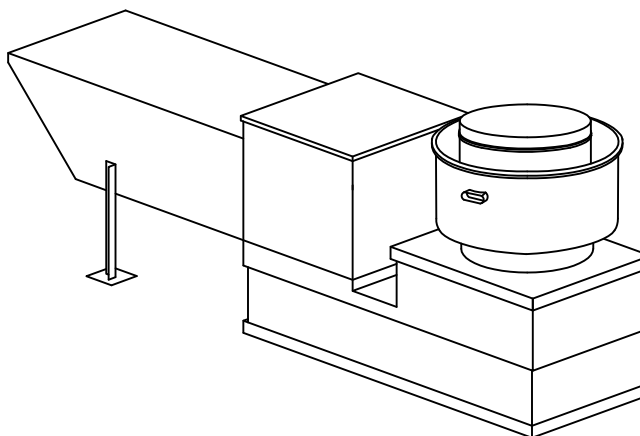
### Curb

Curb and curb cap shall be provided with the package along with equipment legs to support the supply air trunk-line.

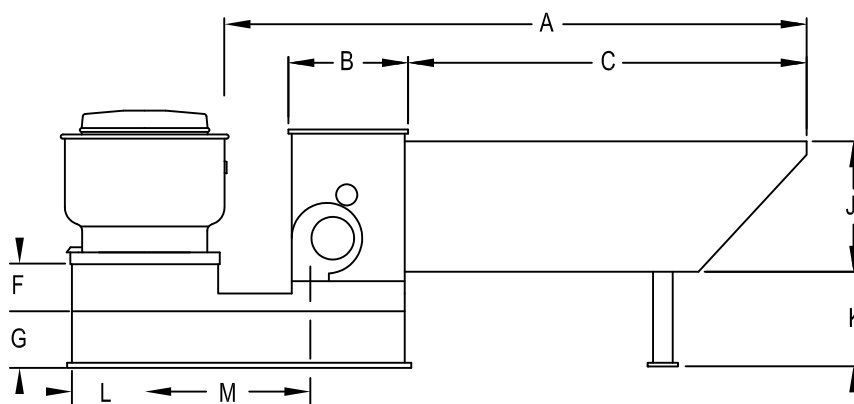
## Rooftop Packages

### Features

- Single, roof opening required for total package. No pitch pockets required.
- Meets 10' code requirements between exhaust outlet and supply inlet
- Exhaust fan rated for high grease applications, AMCA sound rated, & carries the UL 705 Label or UL 762 Label
- Pre-wired motor disconnects with optional single point power connections.
- Aluminum mesh filters.
- Optional backdraft dampers, motorized, or non-motorized.
- Heavy gauge galvanized screwed together construction for durability & longevity
- No painting required
- ETL Listed



## Rooftop Package Dimensional Data



| Rooftop Package Dimensional Data |       |     |         |    |     |     |     |         |         | Filter Sizes |
|----------------------------------|-------|-----|---------|----|-----|-----|-----|---------|---------|--------------|
| Model                            | A     | B   | C       | F  | G   | J   | K   | L       | M       |              |
| ARS-P-10                         | 120"+ | 24" | 92 1/4" | 7" | 14" | 25" | 21" | 11 1/2" | 37 3/4" | (2) 16 x 20  |
| ARS-P-12                         | 120"+ | 34" | 91 1/4" | 7" | 14" | 25" | 19" | 14 1/2" | 36 3/4" | (2) 16 x 25  |
| ARS-P-15                         | 120"+ | 34" | 91 1/4" | 7" | 8"  | 25" | 15" | 16 1/2" | 39 1/2" | (2) 16 x 30  |
| ARS-P-18                         | 120"+ | 42" | 96 1/4" | 4" | 8"  | 30" | 15" | 21"     | 45 1/2" | (4) 20 x 20  |

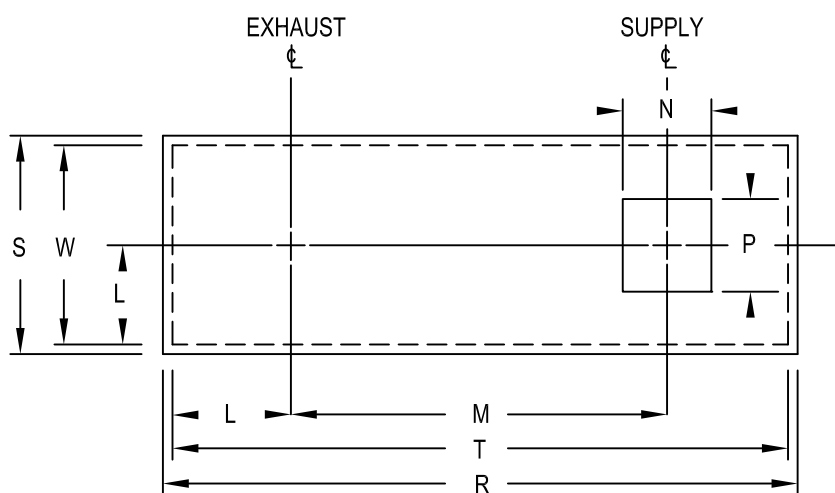
### Legend

Roof Opening Dimension = T x W

Curb Dimension = R x S x G

Exhaust Duct Center from Curb

Outside Edges = L



| Blower Discharge Dimensions |          |         |
|-----------------------------|----------|---------|
| Model                       | N        | P       |
| ARS-P-10                    | 11 1/8"  | 13 1/8" |
| ARS-P-12                    | 13 7/16" | 15 5/8" |
| ARS-P-15                    | 15 7/8"  | 18 5/8" |
| ARS-P-18                    | 18 7/8"  | 21 7/8" |

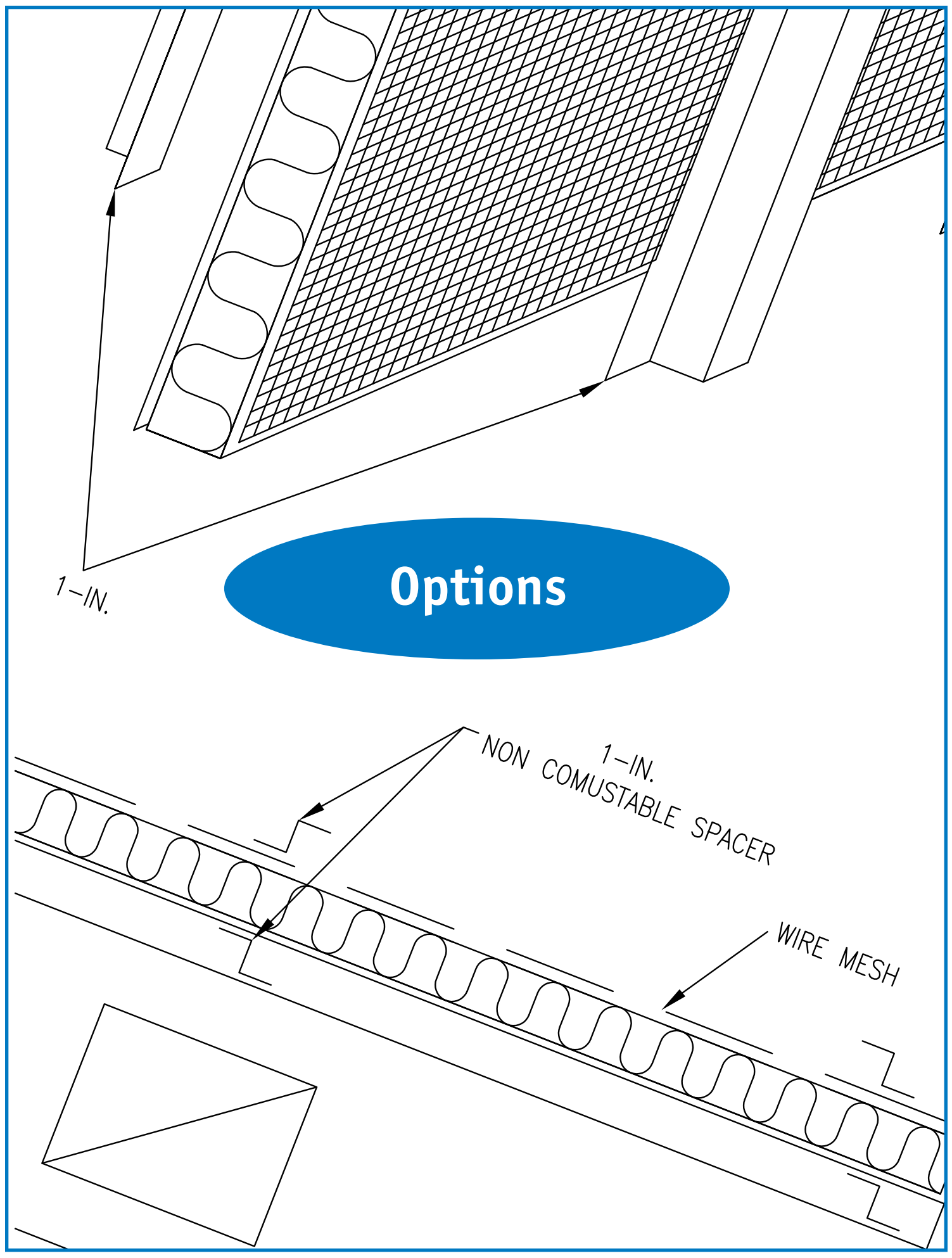
| Curb Dimensions |     |     |     |
|-----------------|-----|-----|-----|
| Model           | S   | R   | G   |
| ARS-P-10        | 22" | 58" | 14" |
| ARS-P-12        | 28" | 74" | 14" |
| ARS-P-15        | 32" | 78" | 8"  |
| ARS-P-18        | 41" | 95" | 8"  |

| Roof Opening Dimensions |     |     |
|-------------------------|-----|-----|
| Model                   | W   | T   |
| ARS-P-10                | 20" | 56" |
| ARS-P-12                | 26" | 72" |
| ARS-P-15                | 30" | 76" |
| ARS-P-18                | 39" | 93" |

## Rooftop Package Performance Data



| Capacity<br>CFM | Outlet-V<br>RPM | 1/8" SP<br>RPM HP | 1/4" SP<br>RPM HP | 3/8" SP<br>RPM HP | 1/2" SP<br>RPM HP | 5/8" SP<br>RPM HP | 3/4" SP<br>RPM HP | 1" SP<br>RPM HP |
|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------|
| <b>ARS - 10</b> |                 |                   |                   |                   |                   |                   |                   |                 |
| 800             | 769             | 375 .04           | 449 .08           | 600 .09           | 694 .12           | 790 .16           | 865 .19           | — —             |
| 1000            | 962             | 403 .07           | 520 .09           | 605 .12           | 699 .15           | 780 .19           | 848 .22           | 996 .30         |
| 1200            | 1154            | 450 .10           | 546 .12           | 630 .17           | 713 .19           | 780 .22           | 855 .26           | 979 .35         |
| 1400            | 1346            | 498 .14           | 580 .17           | 651 .20           | 734 .25           | 803 .30           | 865 .33           | 987 .41         |
| 1600            | 1538            | 547 .20           | 621 .23           | 690 .28           | 758 .31           | 828 .38           | 889 .41           | 997 .49         |
| 1800            | 1731            | 600 .27           | 664 .30           | 728 .37           | 789 .39           | 850 .45           | 908 .49           | 1021 .60        |
| 2000            | 1923            | 651 .36           | 708 .39           | 760 .45           | 824 .49           | 879 .53           | 934 .60           | 1040 .71        |
| 2200            | 2115            | 709 .47           | 755 .49           | 811 .53           | 864 .61           | 920 .69           | 965 .72           | 1063 .84        |
| 2400            | 2308            | 760 .53           | 805 .62           | 857 .71           | 908 .75           | 955 .84           | 999 .86           | 1092 1.00       |
| <b>ARS - 12</b> |                 |                   |                   |                   |                   |                   |                   |                 |
| 1600            | 1096            | 400 .11           | 488 .16           | 567 .20           | 642 .25           | 715 .30           | 773 .36           | 899 .49         |
| 1800            | 1233            | 429 .16           | 507 .20           | 588 .26           | 653 .30           | 722 .38           | 780 .41           | 892 .54         |
| 2000            | 1370            | 456 .20           | 529 .25           | 600 .30           | 669 .36           | 745 .42           | 768 .48           | 898 .61         |
| 2200            | 1507            | 491 .26           | 554 .30           | 624 .38           | 685 .43           | 750 .50           | 799 .55           | 905 .69         |
| 2400            | 1644            | 521 .31           | 580 .37           | 648 .44           | 702 .50           | 761 .57           | 815 .64           | 914 .78         |
| 2600            | 1781            | 551 .40           | 608 .44           | 660 .51           | 723 .59           | 773 .69           | 831 .74           | 927 .88         |
| 2800            | 1918            | 590 .49           | 637 .53           | 697 .65           | 745 .68           | 800 .76           | 847 .84           | 943 1.00        |
| 3000            | 2055            | 624 .54           | 667 .63           | 720 .73           | 769 .79           | 825 .91           | 866 .96           | 959 1.13        |
| 3200            | 2192            | 651 .70           | 698 .74           | 750 .81           | 795 .91           | 849 1.01          | 900 1.41          | 990 1.66        |
| <b>ARS - 15</b> |                 |                   |                   |                   |                   |                   |                   |                 |
| 3000            | 1456            | 410 .40           | 467 .47           | 515 .53           | 578 .66           | 649 .79           | 706 .94           | 791 1.17        |
| 3200            | 1553            | 438 .45           | 485 .55           | 525 .68           | 584 .73           | 647 .81           | 708 1.01          | 805 1.29        |
| 3400            | 1650            | 456 .53           | 504 .64           | 549 .74           | 594 .74           | 649 .98           | 707 1.09          | 813 1.41        |
| 3600            | 1748            | 490 .73           | 524 .74           | 568 .81           | 607 .92           | 651 1.11          | 707 1.17          | 817 1.52        |
| 3800            | 1845            | 509 .79           | 544 .85           | 590 1.01          | 622 1.04          | 663 1.25          | 710 1.27          | 818 1.61        |
| 4000            | 1942            | 523 .83           | 564 .97           | 600 1.10          | 639 1.16          | 675 1.31          | 718 1.39          | 816 1.71        |
| 4200            | 2039            | 539 .95           | 582 1.09          | 611 1.19          | 657 1.30          | 691 1.43          | 729 1.53          | 817 1.83        |
| 4400            | 2136            | 563 1.10          | 603 1.23          | 640 1.30          | 675 1.46          | 715 1.57          | 743 1.68          | 821 1.97        |
| 4600            | 2233            | 600 1.32          | 626 1.39          | 665 1.53          | 693 1.62          | 730 1.81          | 758 1.85          | 829 2.13        |
| 4800            | 2330            | 633 1.52          | 651 1.57          | 691 1.80          | 712 1.80          | 753 2.03          | 775 2.04          | 839 2.31        |
| 5000            | 2427            | 644 1.60          | 675 1.77          | 700 1.91          | 732 1.99          | 761 2.10          | 792 2.24          | 852 2.51        |
| <b>ARS - 18</b> |                 |                   |                   |                   |                   |                   |                   |                 |
| 4500            | 1552            | 410 .71           | 454 .77           | 500 .89           | 543 1.03          | 588 1.21          | 621 1.29          | 696 1.59        |
| 5000            | 1724            | 449 .88           | 485 1.00          | 527 1.19          | 566 1.28          | 609 1.48          | 646 1.58          | 707 1.86        |
| 5500            | 1897            | 448 1.20          | 520 1.28          | 557 1.48          | 590 1.56          | 637 1.78          | 665 1.89          | 733 2.22        |
| 6000            | 2069            | 525 1.50          | 553 1.60          | 588 1.77          | 619 1.91          | 656 2.11          | 688 2.26          | 755 2.62        |
| 6500            | 2241            | 556 1.91          | 585 1.97          | 624 2.19          | 650 2.30          | 679 2.57          | 711 2.67          | 774 3.05        |
| 7000            | 2414            | 600 2.30          | 620 2.40          | 653 2.79          | 681 2.75          | 713 3.00          | 737 3.13          | 798 3.55        |
| 7500            | 2586            | 640 2.91          | 657 2.91          | 691 3.11          | 716 3.29          | 747 3.59          | 768 3.67          | — —             |
| <b>ARS - 20</b> |                 |                   |                   |                   |                   |                   |                   |                 |
| 5000            | 1175            | 305 .47           | 345 .49           | 390 .67           | 430 .79           | 465 .89           | 505 1.03          | 555 1.19        |
| 7500            | 1762            | 430 1.24          | 450 1.39          | 470 1.56          | 510 1.85          | 560 2.00          | 615 2.17          | 620 2.67        |
| 10000           | 2350            | 550 2.83          | 570 3.00          | 590 3.24          | 635 3.50          | 650 3.66          | 700 3.86          | 710 4.32        |
| 12000           | 2850            | 650 4.88          | 665 5.00          | 690 5.39          | 735 5.54          | 745 6.15          | — —               | — —             |



The diagram illustrates a technical assembly. At the top, a perspective view shows a rectangular frame containing a wire mesh. A wavy, non-combustible spacer is positioned between the mesh and the frame. An arrow points from this assembly to a central blue oval labeled "Options". Below the oval, a detailed cross-sectional view of the assembly is shown. It features a wavy spacer, a 1-inch non-combustible spacer, and a wire mesh. A dimension line indicates a 1-inch width for the spacer. A small square symbol is present at the bottom right of the cross-section. In the bottom left corner, there is a small geometric diagram consisting of a square with a diagonal line from the bottom-left corner to the top-right corner.

# Options

# Standard Hood Features and Available Options



The following catalog pages are an overview of our Standard Hood options. They include descriptions, and illustrations of the options offered by Larkin Industries, Inc.

## Standard Hood Features

All Larkin hoods have been tested to Underwriters Laboratories 710 Standard and are listed for use with and without fire damper in exhaust collars by ETL (a nationally recognized testing laboratory of the United States). All Larkin hoods meet the requirements of NFPA 96, NFPA 70, IMC & NSF.

- 18 and 20-gauge 304 or 430 stainless steel or 18-gauge aluminized steel.
- 12-gauge hanger brackets.
- Duct collars shipped mounted or loose.
- U.L classified baffle-type aluminum filter(s).
- Removable grease trough and cup.
- Complete packing for shipment.
- ETL, NSF and built in accordance with NFPA 96 labels.
- UL listed incandescent lights.

## Available Options

- Description of Options ..... [pg 71](#)
- Pre-wired Controls ..... [pg 72](#)
- Auto Fan Controls ..... [pg 74](#)
- Ansul Fire Suppression ..... [pg 76](#)
- Grease Filters ..... [pg 77](#)
- Recessed Fluorescent Lights ..... [pg 80](#)
- NFPA 96 Duct Work ..... [pg 81](#)
- Fan Curbs ..... [pg 85](#)
- ETL Exhaust Duct Fire Damper ..... [pg 86](#)
- Back to Back / End to End Hood Installation ..... [pg 87](#)
- Enclosure Panels ..... [pg 89](#)
- End Panels ..... [pg 90](#)
- Fire Cabinets and Duct Shroud ..... [pg 91](#)
- Stand Offs ..... [pg 92](#)
- Wall Splash Panels ..... [pg 93](#)
- Split Plenums / Single Leaf Supply Dampers ..... [pg 94](#)
- Back Return Plenum ..... [pg 95](#)
- Front Perforated Supply Plenum ..... [pg 96](#)



## Description of Options



**Volume Damper** Used to balance make-up air. Damper is constructed of 18 gauge galvanized steel and is a single leaf damper with locking quadrant handle. Shipped loose and field mounted over supply collar.

**End Panel** Used to maximize hood performance and eliminate cross drafts in kitchen. End panels have 1" flange for attaching to wall and exposed edges are hemmed for safety.

**Duct Shroud:** For use on back shelf type hoods to cover exhaust duct work from top of hood to ceiling. Standard material is 20 gauge 430 stainless steel.

**1, 2, 3 or 4 Switch Panels** Wall or hood mounted switches are used to operate hood lights, exhaust and/or supply fans. Switches are 20 amps, red pilot lighted, single and double pole. For complete description of electrical options see electrical packages on page 72.

**Registers** Standard registers are single deflection, front vertical bars without opposed blade damper. Registers are available double deflection (*front vertical bars, back horizontal bars and opposed blade damper*) standard aluminum finish only.

**Back Return Plenums** A make-up air plenum is mounted directly to the wall extending from the wall 6" and down the wall, terminating below the cooking equipment. The kitchen hood is then mounted in front of the back return plenum. The back-return plenum also acts as a stand-off.

**Double Wall Construction** Consists of two layers of steel on ends and fronts; required on some models.

**Lights** Recessed fluorescent lights and 12"x12" recessed incandescent lights are available. Standard lights are incandescent with tempered glass globes. Wire guards are available. Lights are NSF and UL listed.

**Filters** Filters are UL classified and NSF approved. Filters are available in stainless steel, aluminum, epoxy coated, teflon coated, adjustable and non-adjustable, and high velocity slot. Spark arrestors are available for solid fuel cooking equipment.

**Low Ceiling Hoods** Front of hood is shorter than the back to allow for low ceiling applications to give proper head room under the hood. Some models have a minimum allowable short front.

**Finish Back** The back of a wall style hood is finished and used in island application.

**Front Perforated Supply Plenum** A make up air plenum is mounted to the front of the hood that will discharge make up air down through a perforated panel.

**Auto Fan Control** Automatically energizes fans when cooking operations commence in compliance with IMC 507.2.1.1.

**Metal Types & Gauges** Larkin Industries, Inc. will construct any hood to your metal and gauge specifications. Some options are 304 stainless steel, carbon steel, and 16 gauge material. Standard metals and gauges are aluminized, & 430 stainless steel 18 & 20 gauge.

**Insulated Fronts** 1" fiberglass foil back insulation on the front inside of make-up air plenum. Insulation may be needed in colder climates to prevent front of kitchen hood from condensating.

**Full Insulated Plenum** 1" Fiberglass foil back insulation in the entire make-up air plenum.

**Fire Cabinet** Used to enclose fire suppression system on end of kitchen hood. It has a removable door for easy access, open top (to facilitate fire suppression system piping), and mounting rails. Optional electrical package can be installed in the face of the cabinet (*fire suppression system not included*).

**All Stainless Steel** The "all stainless steel" option specifies that all parts which come in contact with grease laden vapors will be made of stainless steel with the exception of filters. However, stainless steel filters are available as an option. There will be some parts, internal and on the outside top, that will be made of galvanized or aluminized steel. If you desire to have as much of the hood stainless steel as possible, please contact your sales representative at Larkin for special pricing.

**Ceiling Skirts** Encloses the area between the top of the hood and ceiling in high ceiling or retro fit installations. Standard skirts are type 430, 20 gauge stainless steel or 18 gauge aluminized steel.

**Wall Splash** Covers the wall behind cooking equipment under kitchen hood (*required by some health departments*). Standard wall splash materials are type 430, 20 gauge stainless steel.

**Stand Offs** 3", 4", & 6" stand-offs insulated and non-insulated are used to give kitchen hoods desired clearance to combustible materials. Consult NFPA 96 or local codes for required clearance in your area.

**Split Plenums** Kitchen Hood Models SCRF, & ACRF may require split plenums with 2 make-up air collars to ensure proper make-up air distribution on a specific kitchen hood design.

**Collars** Exhaust collars are heavy gauge aluminized steel. 2" tall with 3/4" welding flange. Supply collars are 3" tall and 10" wide standard. Some models require a supply collar with fire damper per NFPA 96. Both exhaust and supply collars can be mounted or shipped loose.

**ANSUL Fire Suppression** Larkin Industries, Inc. provides complete pre-piping of hood with nozzles, detectors with links installed, regulated release assembly, tank(s), agents, remote pull station, gas valve, final field hook up and certification of system. Tanks can be wall mounted in a stainless steel enclosure or in a factory supplied stainless steel fire cabinet mounted to the end of the hood.

*Other options available upon request Consult factory.*



## Pre-wired Electrical Packages



### The Electrical Control Package

The electrical control panels are ETL Listed for most applications. Three phase or single phase control panels are available in various sizes depending on the number of fans controlled by the panel. Each panel is equipped with the required number of switches. There are 3 pre-wire location options:

- 1 Pre-wire located In the hood's fire cabinet with the switches on the face of the fire cabinet.
- 2 Pre-wire located on top of the hood with switches mounted on the face of the hood. *(This is an option only if the top of the hood is accessible, thereby providing accessibility to the pre-wire package on top of the hood).*
- 3 Wall mount stainless steel box. *(This option requires field wiring of the lights and micro switches. With this option, the switches must be mounted on the face of the stainless steel box.)* Switch covers are stainless steel. To meet most code interlock requirements, a single red light switch is used for supply/exhaust combination. For hood lights, a single pole, gray handle switch is used as required.

### Single Phase Control

The Listed control panel for single phase application has minimum dimensions of 10" x 10" x 4". 1/2" and 3/4" knockouts are provided to facilitate field connections. The Interior of the NEMA Approved control panel may contain the following:

- Coded wiring with numbered terminal blocks.
- Grounding bar.
- Spare terminals controlled by the fire system micro switch.
- Factory control wiring to shut down the supply fan and exhaust fan continues running in fire conditions.
- Wiring diagram.
- Relays controlled by the fan switch that carry the fan loads. The maximum horsepower for a 120V standard package is 1 1/2 HP; for 220V, maximum horse power is 2 HP. All wiring is encased In flexible conduit or EMT. The panel is factory tested prior to shipment.

Field wiring of the package requires the electrician to:

- 1 Pull the specified power inputs from the main power source to the control package.
- 2 Pull the fan wires to each fan from the control pannel. Additional field wiring may be required from the fire system micro switches and to the hood lights, depending on the mounting options chosen for the pre-wire control package. The system is complete after connections are made per wiring diagram.

### Three Phase Control Package

The ETL Listed control panel for three phase applications has minimum dimensions of 12" x 12" x 6". 1/2" and 3/4" knockouts are provided to facilitate field connections. The interior of the NEMA Approved control panel may contain the following:

- Coded wiring with numbered terminal blocks.
- Grounding bar.
- Starters with overloads. The starters are controlled by the fan switches.
- Distribution blocks (which allow up to four (4) three phase fans to be fed by one (1) three phase circuit).
- Spare terminals controlled by the fire system micro switch.
- Factory control wiring to shut down the supply fan and exhaust fan continues running in fire conditions.
- Wiring diagram. Wiring is encased in flexible conduit or EMT. The panel is factory tested prior to shipment.

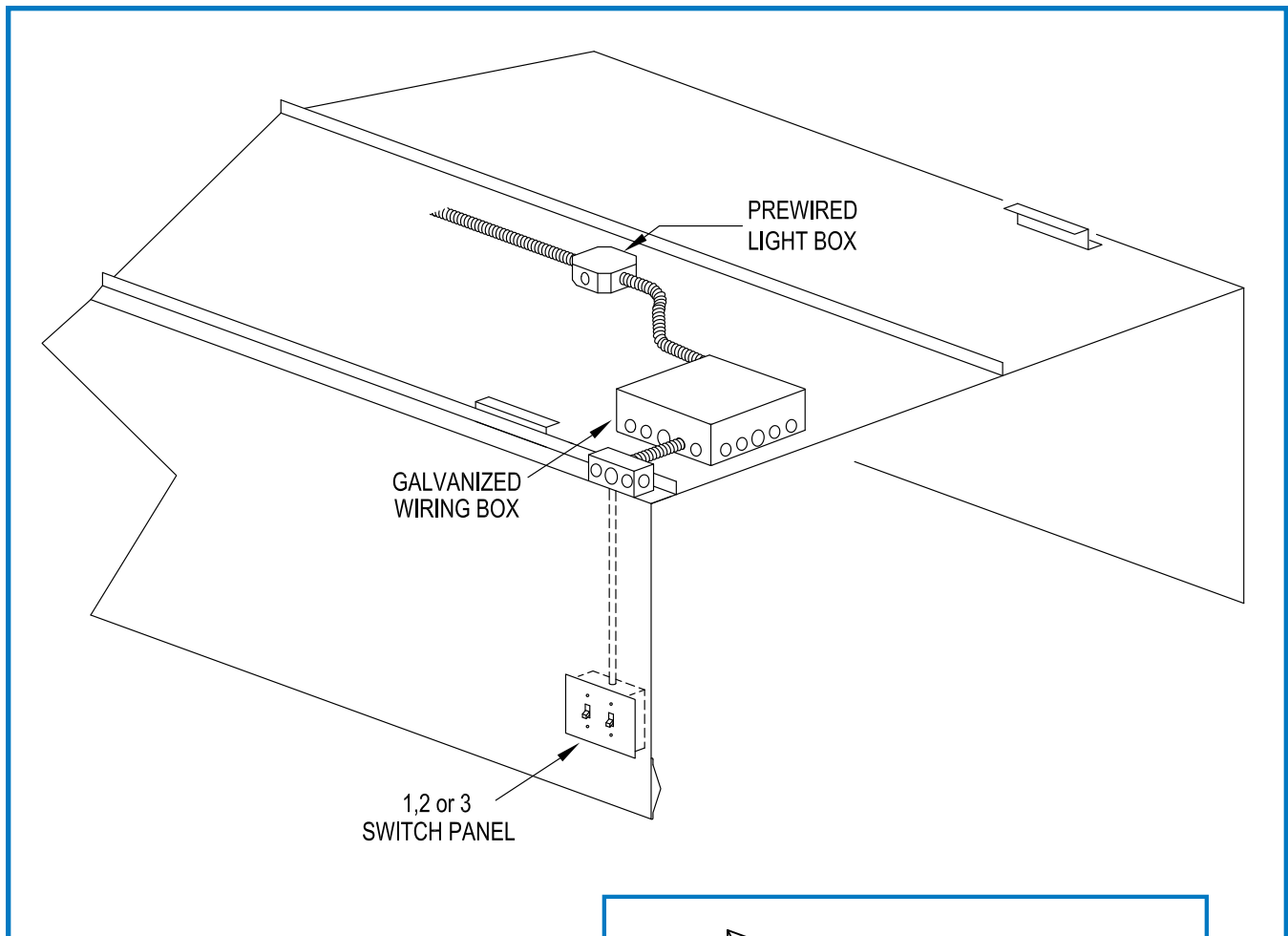
Field wiring of the package requires the electrician to:

- 1 Pull the specified power Inputs from the main power source to the distribution blocks for three phase power.
- 2 Pull the specified power inputs for single phase power for the light and control circuits to the control package.
- 3 Pull from output terminal blocks to each fan from the control panel. Additional field wiring may be required from the fire system micro switch and to the hood lights, depending on the mounting option chosen for the prewire control package. The system is complete after connections are made per wiring diagram.

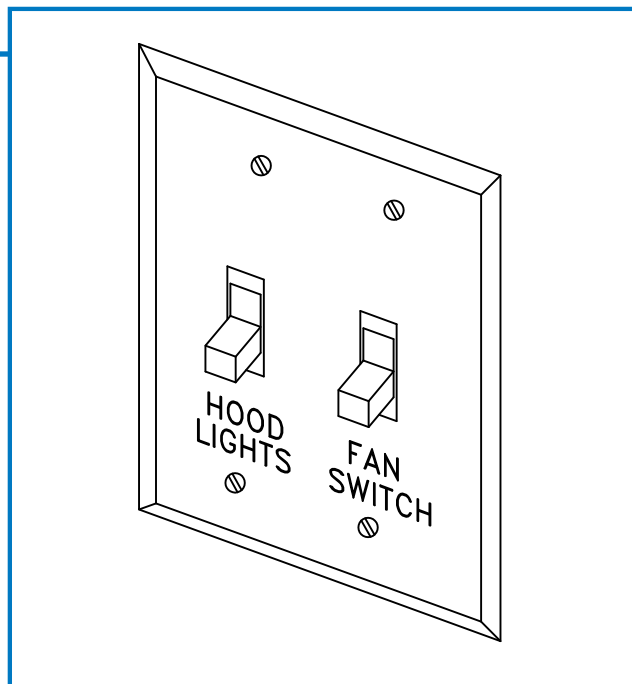
### Auto Fan Control System

The Larkin auto fan control system is completely pre-wired including hood mounted controls, controller package, starter or contactor package and hood mounted sensors. The auto fan control system will automatically energize the fans as the temperature of the cooking equipment rises and cooking operations commence in compliance with international mechanical code 507.2.1.1. The auto fan control system has a hood mounted temperature adjustment dial factory pre-set at 80° f that will adjust to meet warmer or cooler kitchen environments. The auto fan control system also includes a "cool down" delay that allows the fans to operate for 30 minutes after the set temperature has been achieved. This will prevent any unwanted on-off cycling of the fans while the equipment cools.

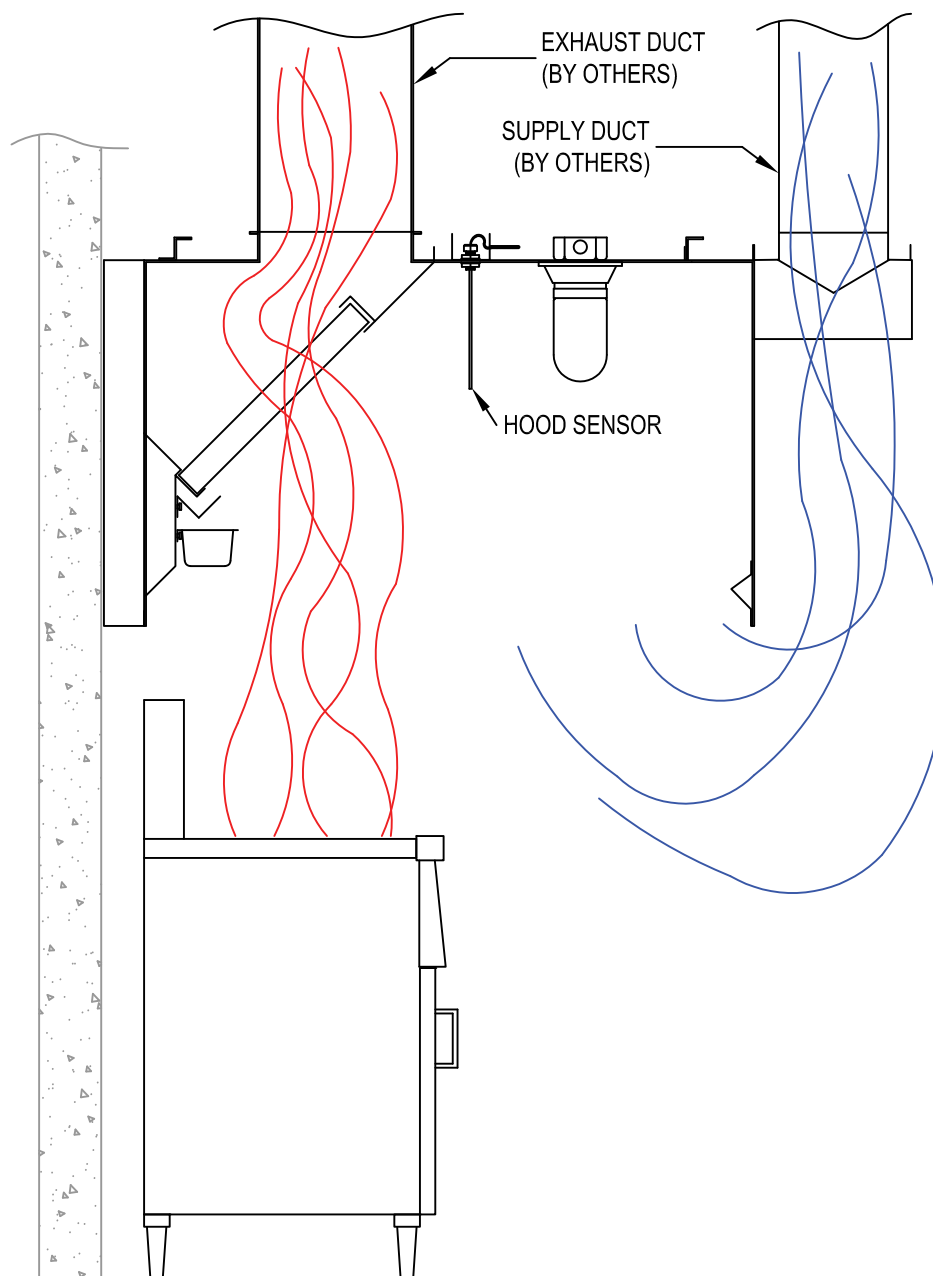
## Hood Mounted Pre-Wired Electrical Packages



Pre-wired electrical package to be mounted on top of hood and factory pre-wired to a switch panel on face of the hood and the hood lights. Wiring shall contain, as required, starters with overloads, relays, contactors, terminal strips and wiring diagram. Wiring from power source and rooftop fans requires field hookup as per National Electrical Code. Pre-wired boxes available in 115V, 208V, 230V single phase, and 208V, 230V, and 480V three phase.

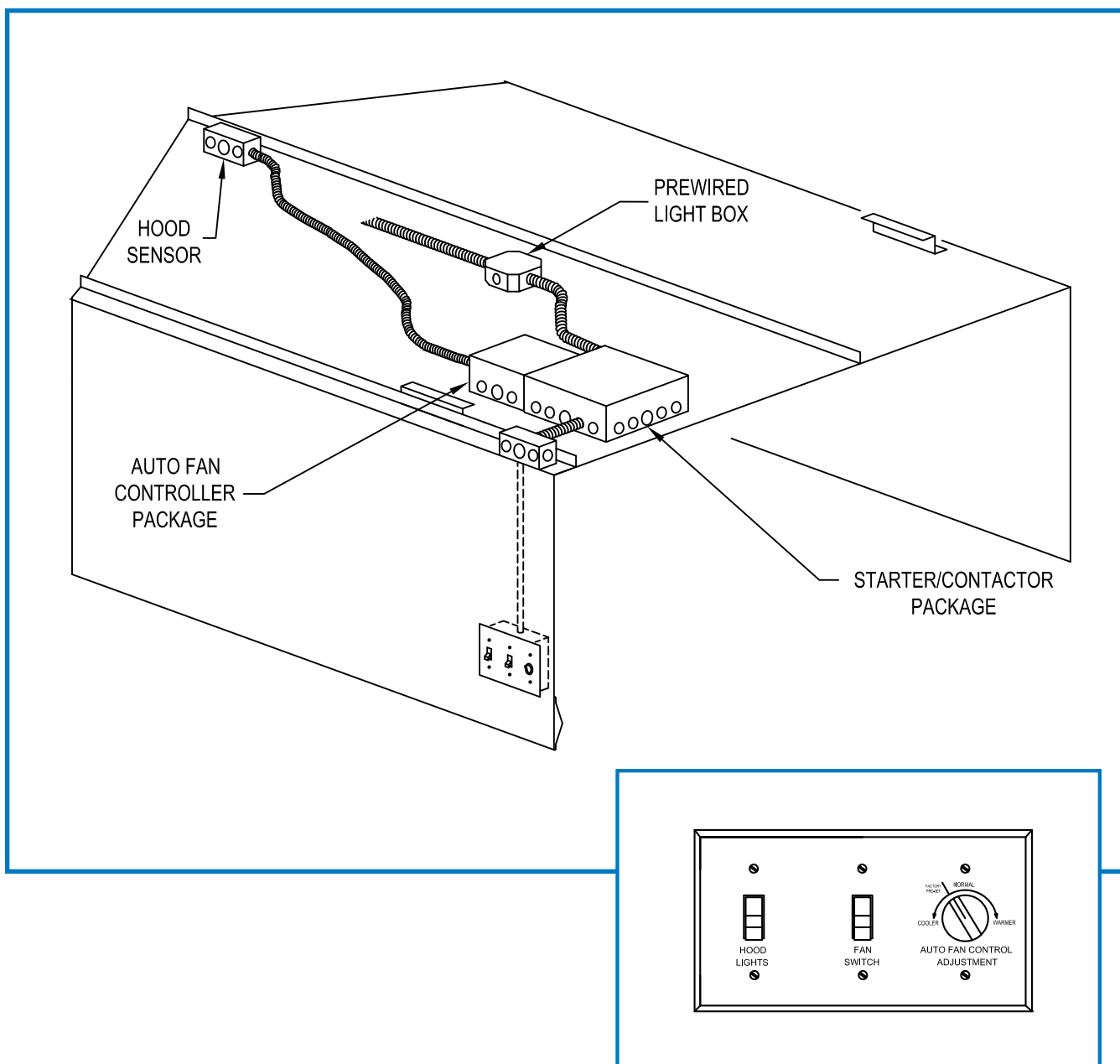


## Larkin Auto Fan Control System



The Larkin Auto Fan Control System will automatically energize the fan(s) as the temperature of the cooking equipment rises and cooking operations commence in compliance with the International Mechanical Code 507.2.1.1. The Automatic Fan Control System is equipped with an adjustment dial (*factory set to 80 degrees*) that allows the system to adapt to any kitchen temperature environment. By having the adjustment on the face of the hood, it eliminates problems associated with seasonal temperature changes, continuous fan operation in a hot or unconditioned kitchen, and unwanted energizing of the fans due to kitchen space temperature changes. The Automatic Fan Control System also incorporates a fully adjustable "cool down" time delay which allows the fan(s) to operate for 30 minutes after the set temperature has been reached. This prevents any unwanted "on/off" cycling of the fan(s) and banging "on" and "off" of the contactors and fan motors that can cause damage.

## Larkin Auto Fan Control System



When using the Larkin Auto Fan Control System the exhaust and supply fans must be interlocked. It must also be purchased with either a starter package for 3-phase or a contactor package for single phase. When purchased with a new Larkin hood system, the auto fan control is completely pre-wired and mounted on the top of the hood, as illustrated, or in the utility cabinet. The system can be used on any hood configuration up to four (4) hoods per controller, end-to-end, back-to-back or end-to-end-back-to-back.

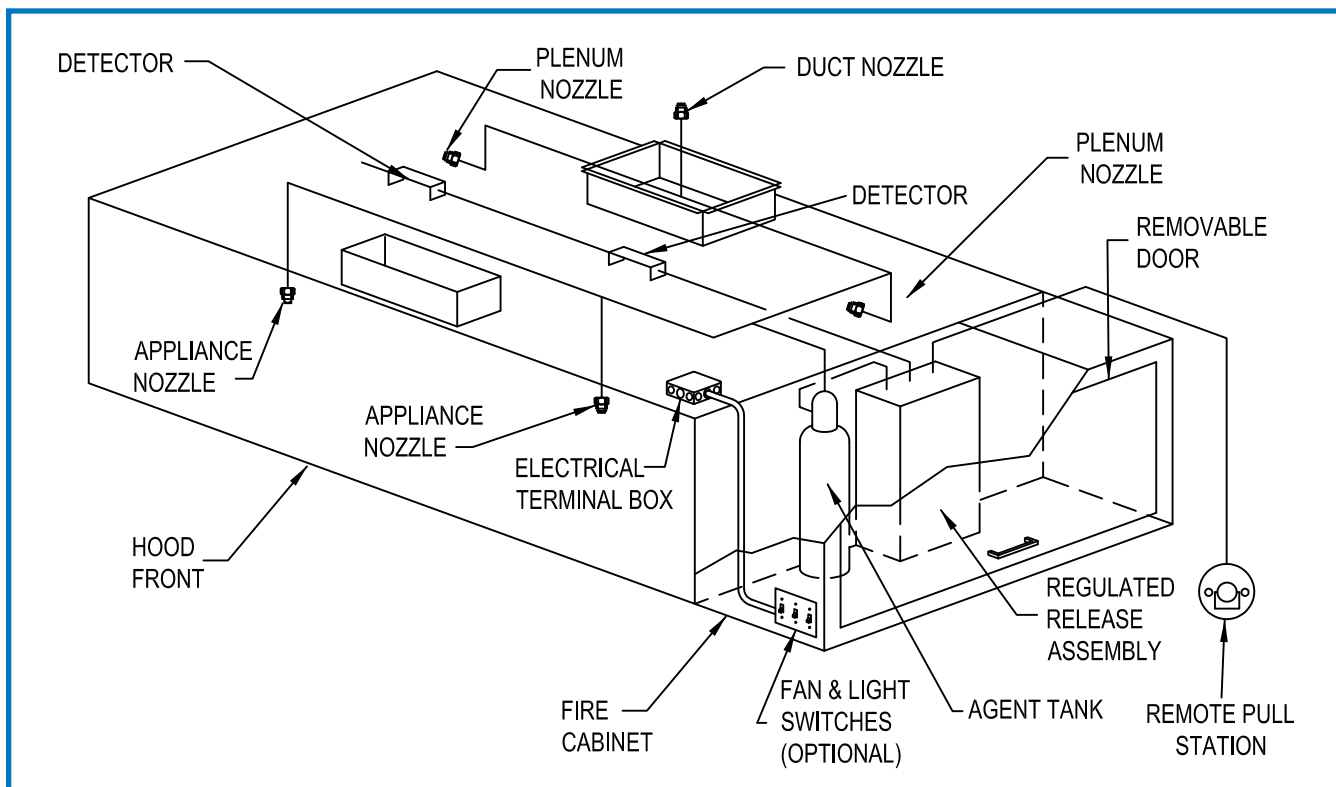
The trouble free Larkin Auto Fan Control System can also be used with any other hood brand as a retrofit or an add-on kit. Depending on the type and number of face-mounted switches on an existing hood, the adjustment dial may need to be mounted on the lid of the control box above the ceiling or in a utility cabinet.

## Larkin Industries, Inc.

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Birmingham, AL 35244  
Phone: 1-205-987-1535  
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Toll Free: 1-800-322-4036  
E-mail: sales@larkinhoods.com  
www.larkinhoods.com



## ANSUL® Fire System



### Systems Components

Regulated Release Assembly - actuates system and shuts down cooking equipment fuel supply and supply fan.

Agent Tank - R102 Tank contains Ansul liquid fire suppressant.

Detectors - Automatically actuates the release mechanism, activating fire suppression System.

Nozzles - Directs Ansul to exhaust plenum, exhaust duct and required cooking equipment at a specific flow rate and stream pattern.

Manual Pull Station - Remotely mounted in kitchen area to provide for manual system actuation.

### Mounting Options

Hood Mounted consists of 12" wide fire cabinet mounted on left or right of factory prepiped hood as specified. Cabinet contains agent tank and release assembly. The only field connections necessary for complete installation are remote pull station and fuel shut off.

Wall Mounted consists of factory prepiped detection and agent lines on hood. Requires field connection of agent tank, Automan, remote pull station and fuel shut-off.

### Field Connections

The Fire System is field connected by qualified and insured fire equipment distributors. It is the responsibility of Larkin Industries, Inc., to contract hook ups; it is the responsibility of the customer to notify Larkin Industries, Inc., 5 days prior to required day of hook up.

*NOTE: This is a product application guideline only. Each equipment package is specifically designed to meet job requirements and building code authorities.*

# Grease Filters



## Operation

Grease laden air is drawn into the filter by the exhaust fans. As the air starts through the baffle system, it undergoes a series of compressions, expansions and pressure changes. The heavy grease is deposited safely and quickly on the baffles while the grease-free air passes through the filter and up the exhaust duct. The baffle's smooth surface enables the collected grease to run off into collection troughs without dripping on food, utensils or burner surfaces. The baffle filter method of separating grease and air has achieved superior levels of efficiency and safety.

## Self -Balancing

Baffle filters are designed to provide a self-balancing air flow throughout the entire length of a hood. The baffle filters unique design assures good capture through the entire hood length, with 25% to 50% less volume of exhaust air.

## Construction

Baffle filters are constructed of heavy duty stainless steel, aluminum, teflon coated, & epoxy resin-coated assuring durability which will provide years of trouble-free operation. Baffle filters are Underwriter Laboratories classified & NSF approved.

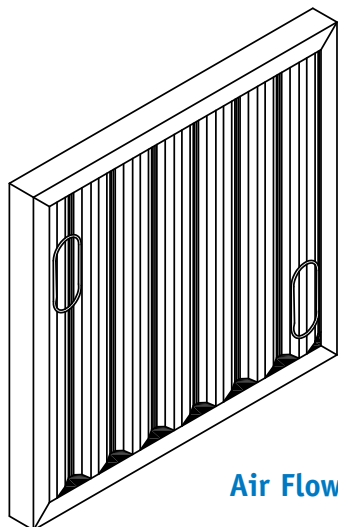
## Installation

Baffle filters are available in all standard commercial sizes and are installed in the same manner as conventional filters. Baffle filters may replace mesh filters in existing kitchens without the need for elaborate system revisions.

## Maintenance

The construction allows the filter to be soaked, sprayed or placed in a dishwasher for simplified cleaning, without concern for rusting or damaging the filters.

## Baffle Type Grease Filters



### Features

- Stainless steel or aluminum construction for tough commercial kitchen abuse.
- Maximum, permanent protection against rust and corrosion.
- Safe, dependable, positive flame barrier protection.
- Seamless, smooth surfaces permit constant grease run-off into hood collection troughs.
- Designed to replace mesh type filters without costly hood modifications.

### Air Flow Characteristics CFM Verses Static Pressure

| Static Pressure  |             |         |         |         |         |         |         |         |
|------------------|-------------|---------|---------|---------|---------|---------|---------|---------|
| Flow Rate<br>CFM | Filter Size |         |         |         |         |         |         |         |
|                  | 10 x 20     | 12 x 16 | 12 x 20 | 16 x 16 | 16 x 20 | 20 x 20 | 16 x 25 | 20 x 25 |
| 200              | 0.13        | 0.15    | 0.10    | 0.07    | 0.04    | 0.04    | 0.04    | 0.03    |
| 250              | 0.20        | 0.23    | 0.16    | 0.12    | 0.07    | 0.06    | 0.07    | 0.04    |
| 300              | 0.29        | 0.33    | 0.23    | 0.17    | 0.09    | 0.08    | 0.09    | 0.06    |
| 400              | 0.52        | 0.59    | 0.40    | 0.30    | 0.17    | 0.15    | 0.17    | 0.11    |
| 450              | 0.66        | 0.75    | 0.51    | 0.38    | 0.21    | 0.19    | 0.21    | 0.14    |
| 500              | 0.81        | 0.93    | 0.63    | 0.46    | 0.26    | 0.23    | 0.26    | 0.18    |
| 550              | 0.98        | 1.12    | 0.76    | 0.56    | 0.32    | 0.28    | 0.32    | 0.21    |
| 600              | 1.17        |         | 0.90    | 0.67    | 0.38    | 0.33    | 0.38    | 0.25    |
| 650              |             |         | 1.06    | 0.79    | 0.45    | 0.39    | 0.44    | 0.30    |
| 700              |             |         |         | 0.91    | 0.52    | 0.45    | 0.51    | 0.35    |
| 750              |             |         |         | 1.05    | 0.59    | 0.52    | 0.59    | 0.40    |
| 800              |             |         |         |         | 0.68    | 0.59    | 0.67    | 0.45    |
| 850              |             |         |         |         | 0.76    | 0.67    | 0.75    | 0.51    |
| 900              |             |         |         |         | 0.85    | 0.75    | 0.85    | 0.57    |
| 950              |             |         |         |         | 0.95    | 0.83    | 0.94    | 0.64    |
| 1000             |             |         |         |         | 1.05    | 0.92    | 1.04    | 0.71    |

### Effective Area

The effective areas for the following nominal size filters are:

10" x 20" x 2" ..... 1.00 Square feet

12" x 16" x 2" ..... .97 Square feet

12" x 20" x 2" ..... 1.25 Square feet

16" x 16" x 2" ..... 1.36 Square feet

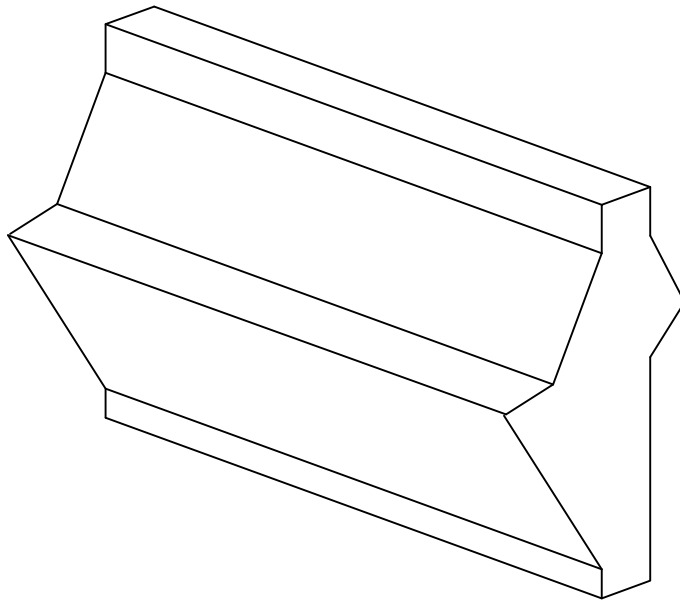
16" x 20" x 2" ..... 1.75 Square feet

20" x 20" x 2" ..... 2.25 Square feet

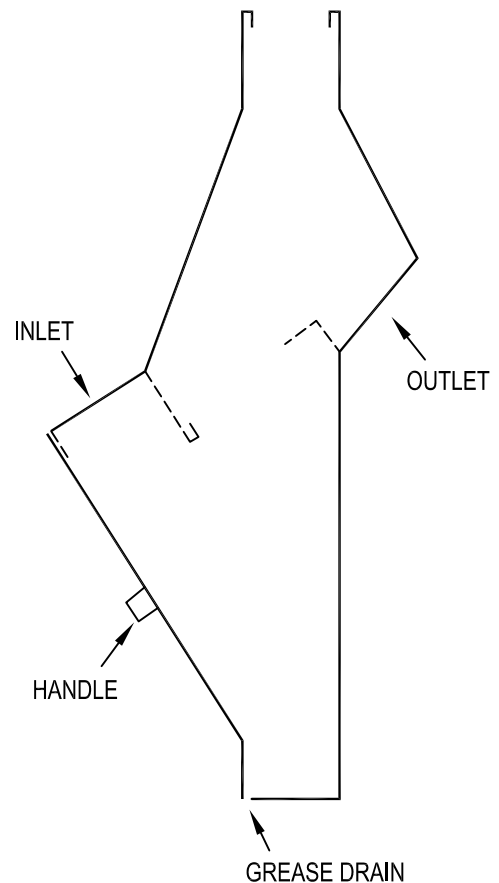
16" x 25" x 2" ..... 2.24 Square feet

20" x 25" x 2" ..... 2.88 Square feet

## Cartridge Filter



- Stainless Steel Construction
- High Velocity Capture
- Superior Smoke and Grease Containment
- Extreme Durability
- Easy Dishwasher Cleaning



### High Velocity Slot Filter Specification

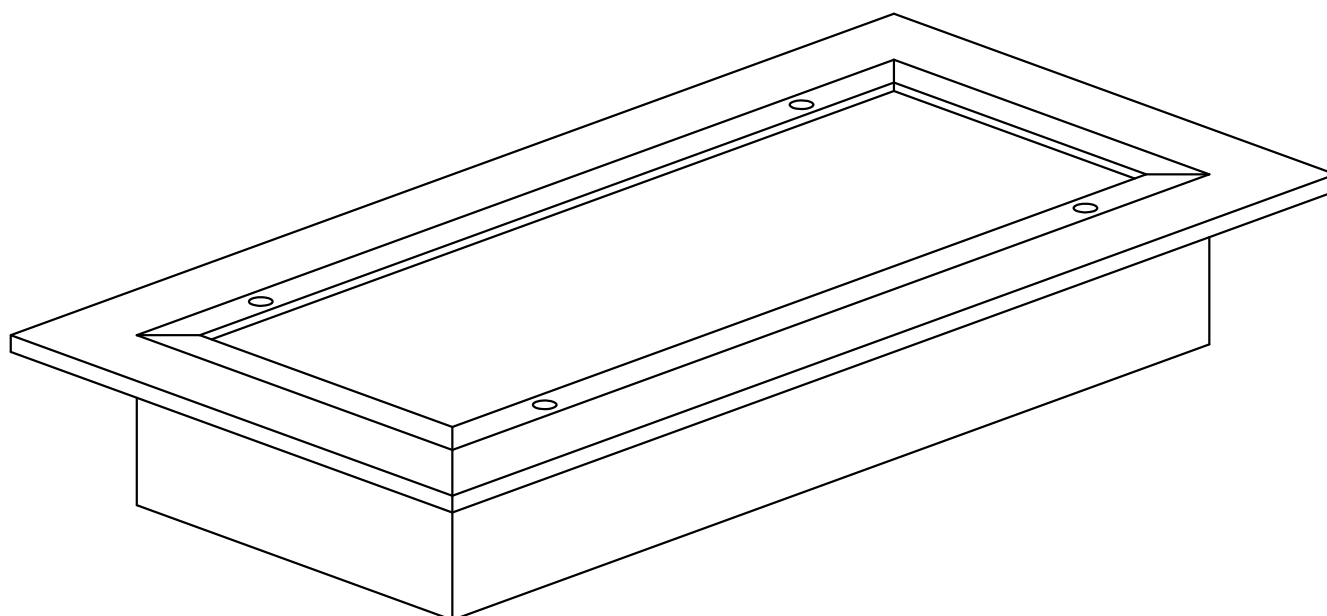
The grease extractors used shall be the Larkin Industries, Inc. Model HVC 1620SS. The grease extractor shall be constructed of all heavy gauge stainless steel and be of the Larkin "Four Pass" design for maximum grease extraction.



## Fluorescent Light Fixtures



### Recessed Fluorescent Hood Light Fixtures



All fixtures conform to N.F.P.A. 96 and are U.L. Listed for canopy hood application.

#### Features

- Only 4 1/2" high for limited overhead applications
- Complete with stainless steel frame & tempered glass diffuser

#### Specifications

**Wiring** Rigid conduit is connected to the special U.L. Listed threaded hub and connections made to the fixture.

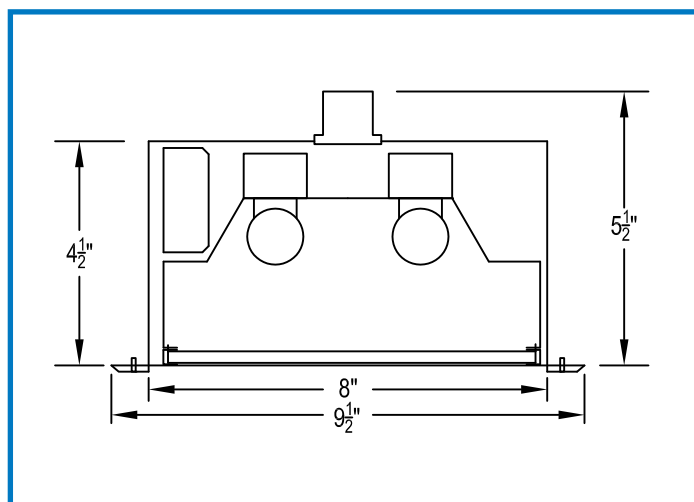
**Reflector** Baked white enamel finish provides minimum 87% diffused reflection.

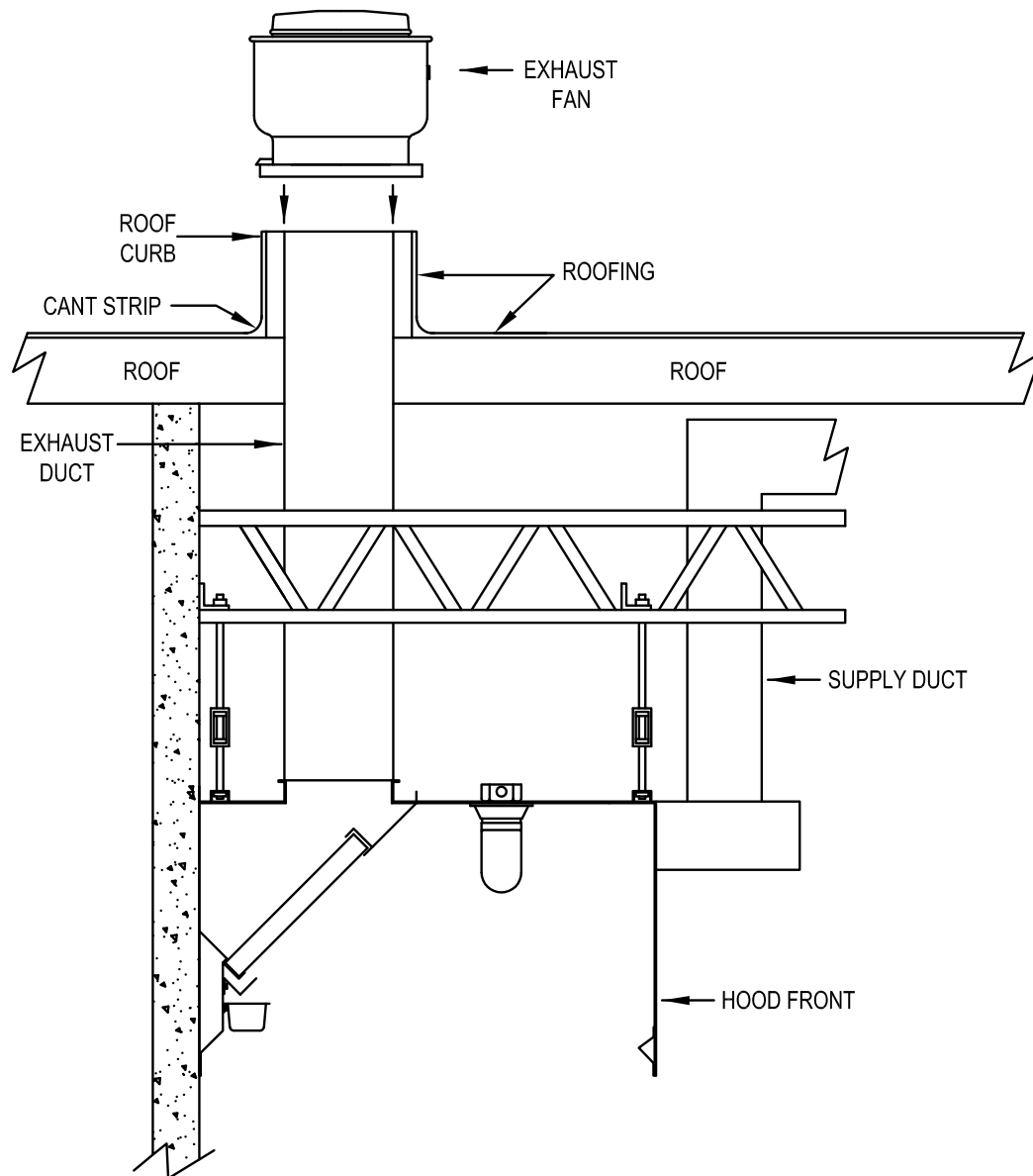
**Ballast** Standard 120 volt, 60 cycle, high power factor, Class P, UL Listed. Other voltages available.

**Lamp** T12 fluorescent lamps (*not furnished*).

**Diffuser** Heat and shock resistant Crystal 73 tempered, prismatic glass with prisms on the inside of the fixture, is mounted into the face frame and sealed with special gasketing.

**Face Frame** Channel face frame, held with twin springs and cable is locked with captive stainless steel screws for easy servicing. All back surfaces are completely sealed with special gasketing.





### Features

- Built in Accordance With NFPA 96 and the International Mechanical Code
- Standard 16 gauge cold roll steel construction
- Welded Liquid Tight Seams
- Rectangular Construction
- Welding Flanges Available (*One or Both Ends*)
- Fittings and Transitions also available, including square-to-round
- Optional material types available, 304, 430 stainless steel, and aluminized steel

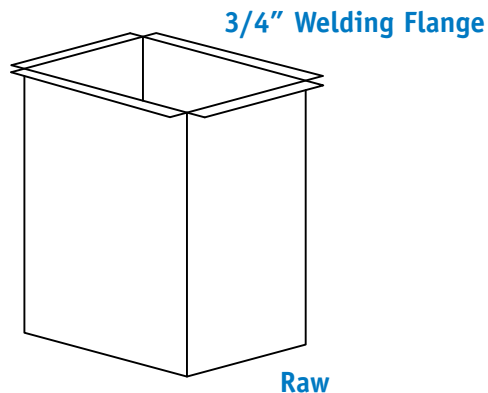




### 16 Gauge Welded Duct

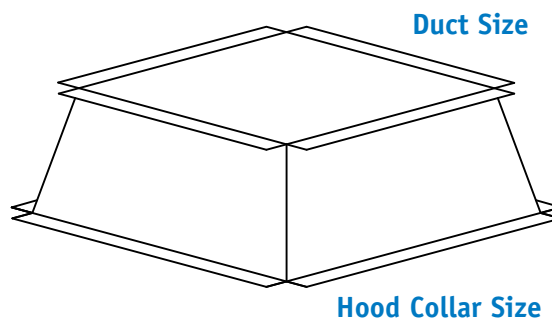
Available in lengths up to 10'. Available with welding flanges on both ends, one end, or no flanges "raw".

- Square or rectangular sizes from 8" x 8" to 30" square



### Hood Collar to Duct Transition

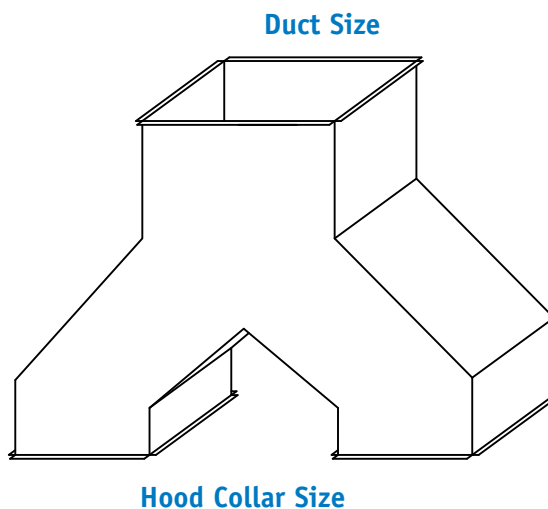
Welding flanges available on one or both ends, or no flanges "raw".



### Pant leg Duct

Available with welding flanges on one or both ends or no flanges "raw". This transition is used for a two hood collar and one exhaust duct configuration.

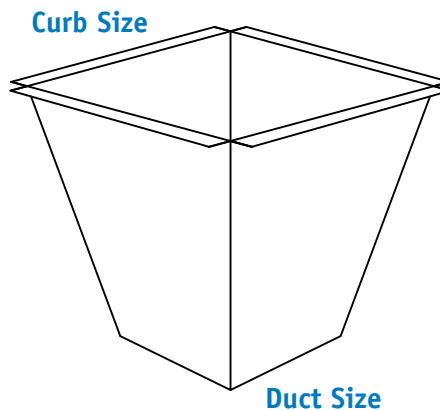
- Also available in 304 or 430 stainless steel for dishwasher duct applications.





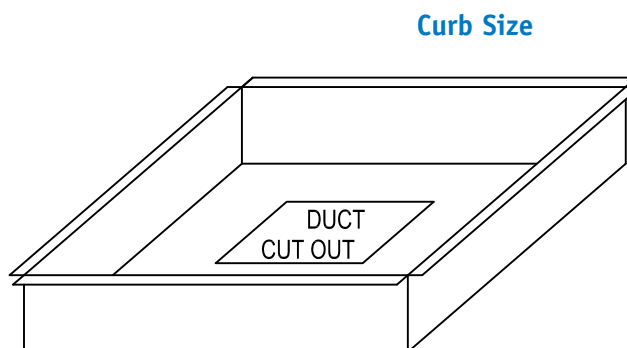
### Curb to Duct Transition

Welding flanges available on one or both ends, or no flanges "raw". This transition provides a smooth aerodynamic flow from the duct size to curb size.



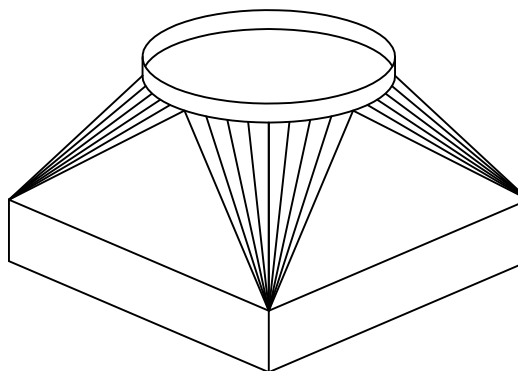
### Weld Pan

A weld pan can be used as an economical alternative to the curb to duct transition, it also provides greater flexibility of exact duct connection in the field.



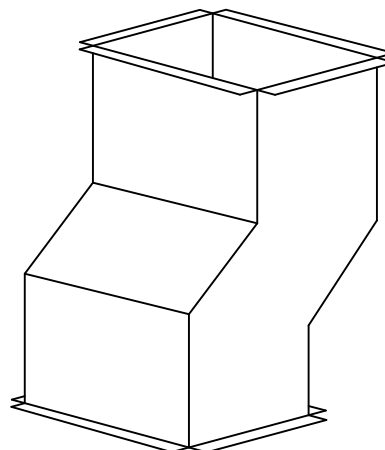
### Square to Round Transitions

Constructed of 16 gauge welded steel. Custom sizes available.



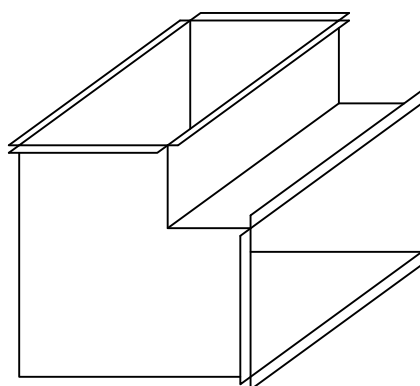
### Off Set

- Welding flange on both ends, one end, or no welding flange "raw".
- These fittings can be radius for decreased static pressure.
- Fittings can be factory welded to duct work for less field welding.



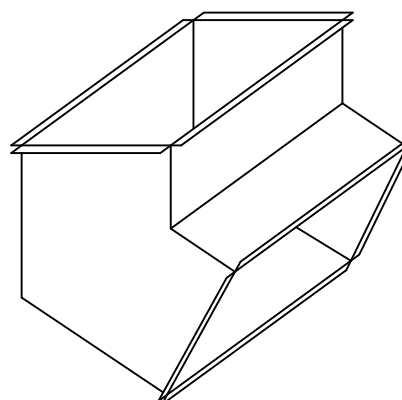
### 90° Elbow

- Welding flange on both ends, one end, or no welding flange "raw".
- These fittings can be radius for decreased static pressure.
- Fittings can be factory welded to duct work for less field welding.



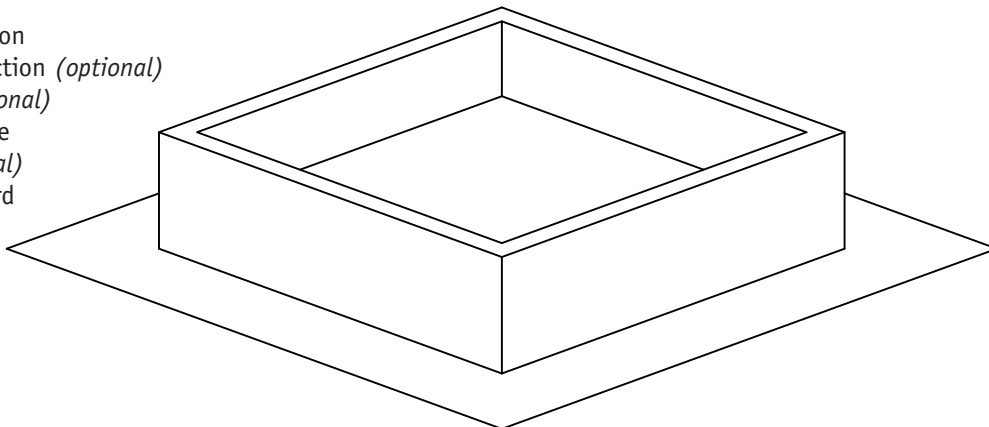
### 45° Elbow

- Welding flange on both ends, one end, or no welding flange "raw".
- These fittings can be radius for decreased static pressure.
- Fittings can be factory welded to duct work for less field welding.



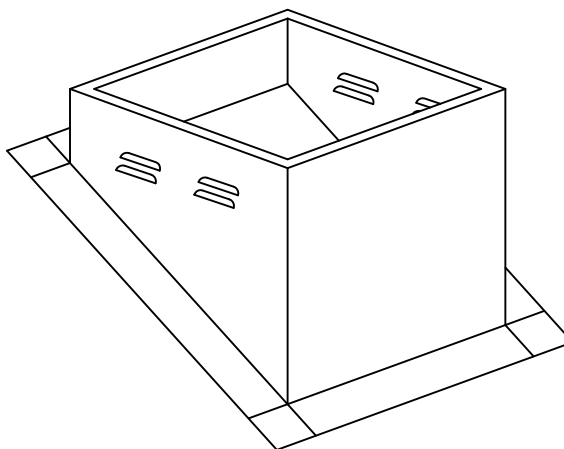
### Flat Roof Curbs for Fans

- Galvanized construction
- Solid welded construction *(optional)*
- Insulated curbs *(optional)*
- Custom sizes available
- Vented curbs *(optional)*
- Flat curbs are standard with 4" flanges



### Sloped Roof Curbs or Fans

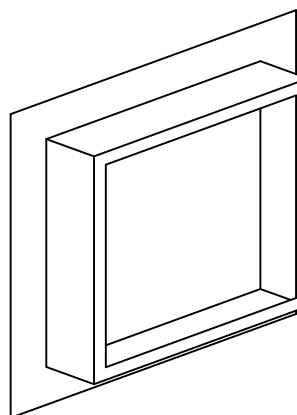
- Galvanized construction
- Solid welded construction
- Insulated curbs *(optional)*
- Custom sizes available
- Vented curbs *(optional)*
- Slope curbs are standard with 6" flanges



*\*Vented Curb Pictured*

### Wall Curbs for Exhaust Fans

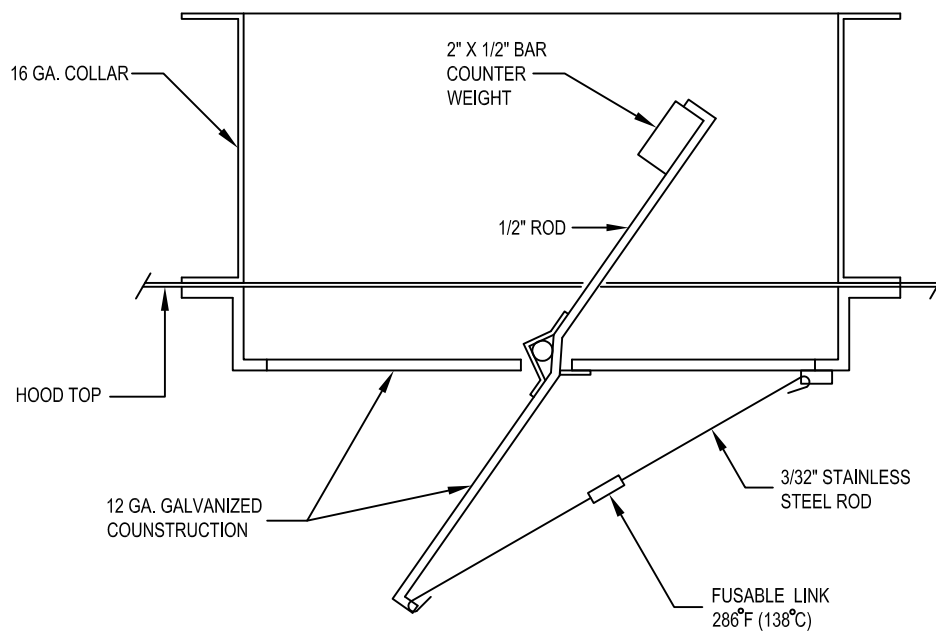
- Galvanized construction
- Solid welded construction
- Custom sizes available
- Wall curbs are standard with 2" flanges



## ETL Listed Fire Damper In Exhaust

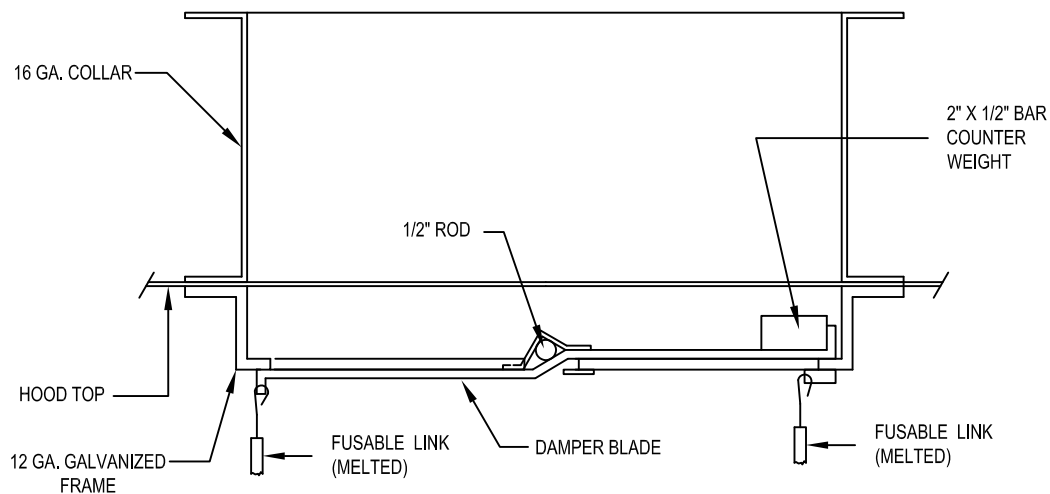


### Open



**Note:** No longer accepted in most jurisdictions.

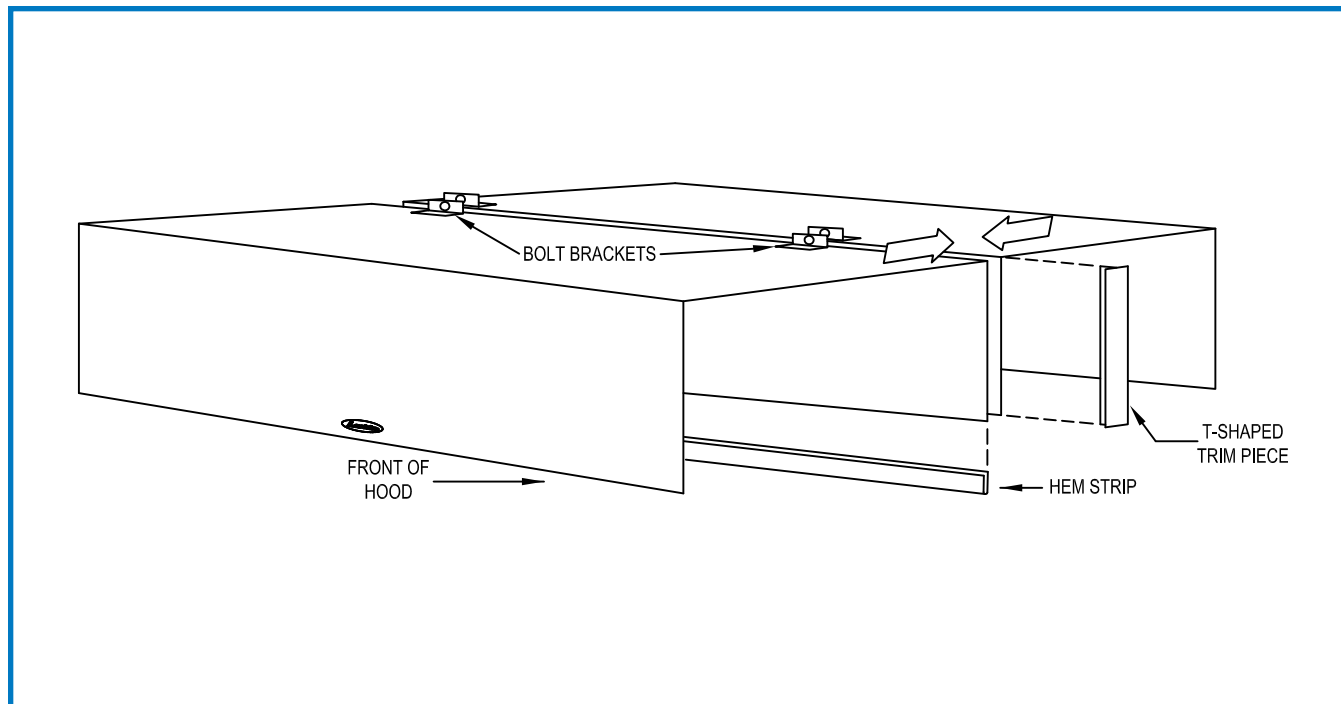
### Closed



## Two-Piece Island Hoods

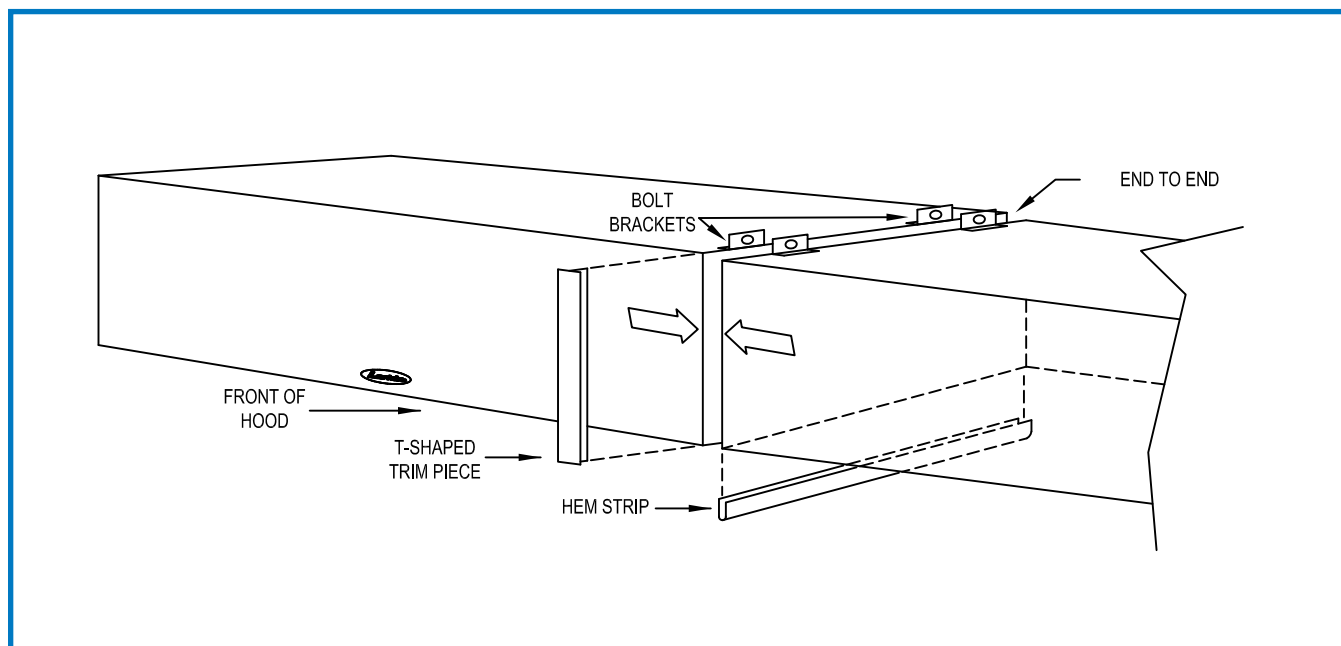


Island hoods greater than 6'6" in width are generally built in two sections and mounted back-to-back. The two section island hood mounting detail is shown below.



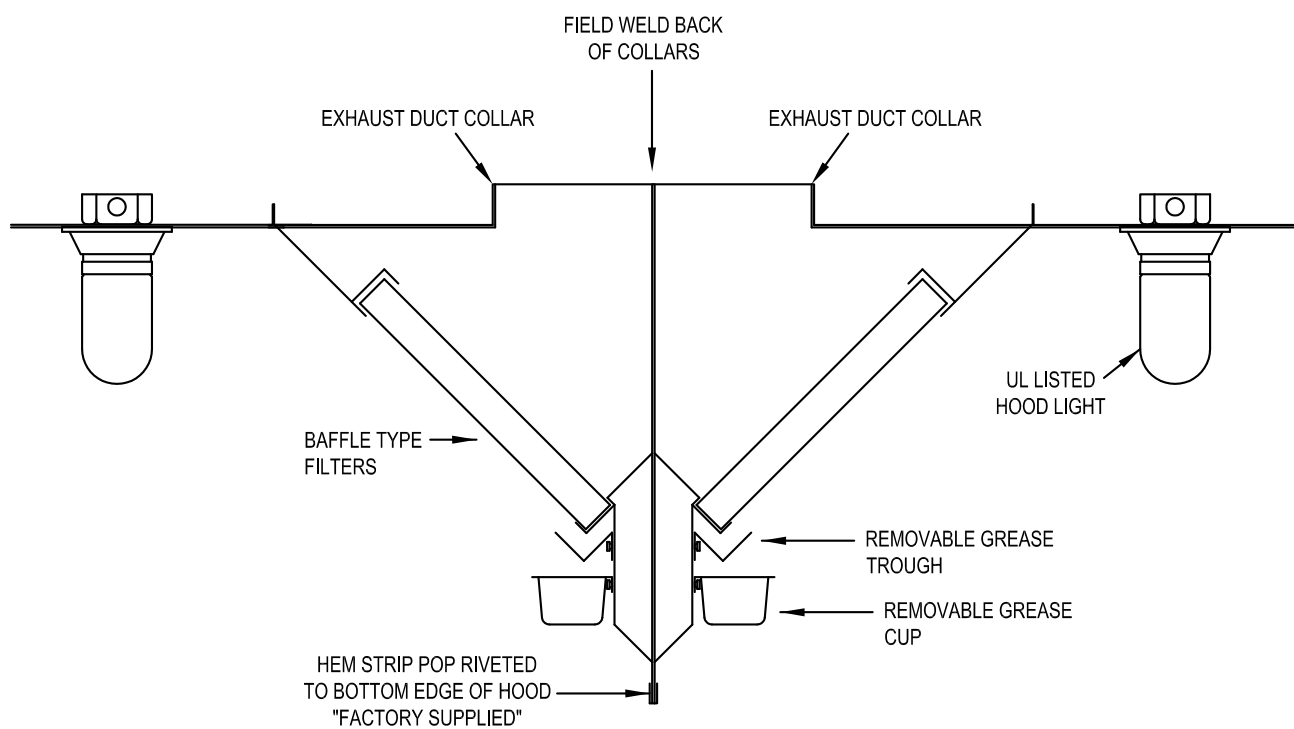
## Two or More Hoods End-to-End

Kitchen hoods longer than 16' are generally built in two sections of equal length. A one-piece hood longer than 16' tends to be cumbersome to install due to weight, difficulty in handling, and the tendency toward damage. Two-section hoods are mounted together end-to-end as described below.

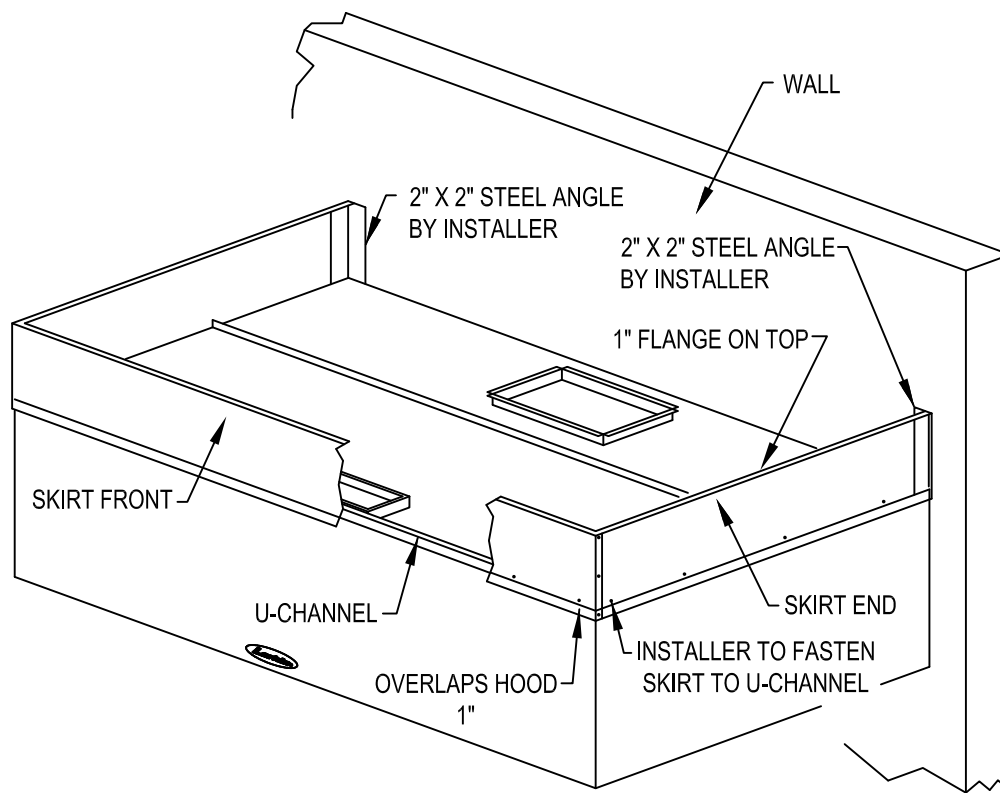




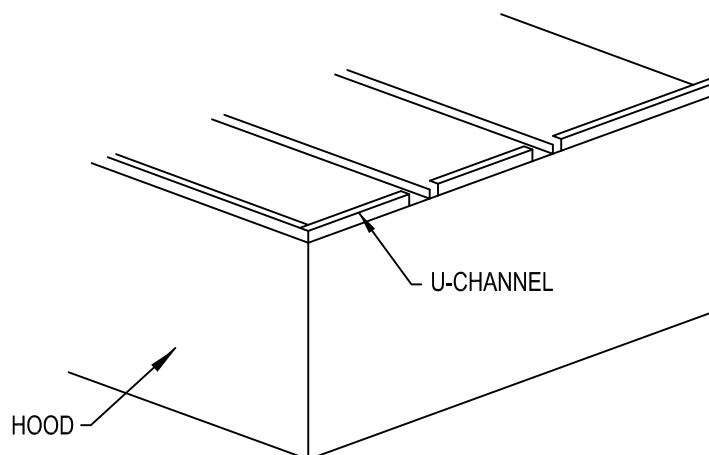
## Two-Piece Island Hood Back to Back Collar Installation



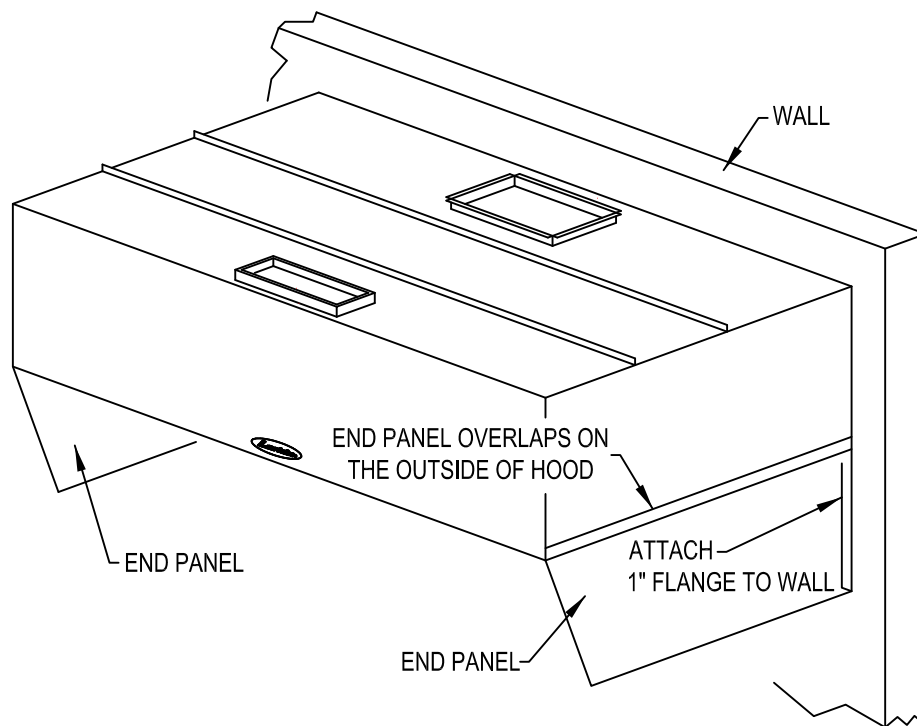
## Standard Enclosure Panels



Enclosure panels are provided to close off the area between the top of the hood and the finished ceiling to hide ductwork, hanging hardware, and electrical wiring. Fasten enclosure panel to hood channel by means of screws or rivets. Factory furnished end caps should be secured with screws or rivets at the corners of the hood and to the wall.

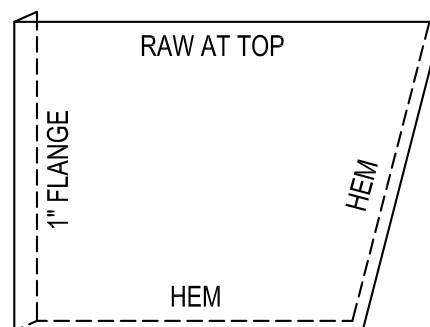


U-channel is mounted to top of hood from factory. Mount skirt with overlap on hood and fasten skirt to U-channel.

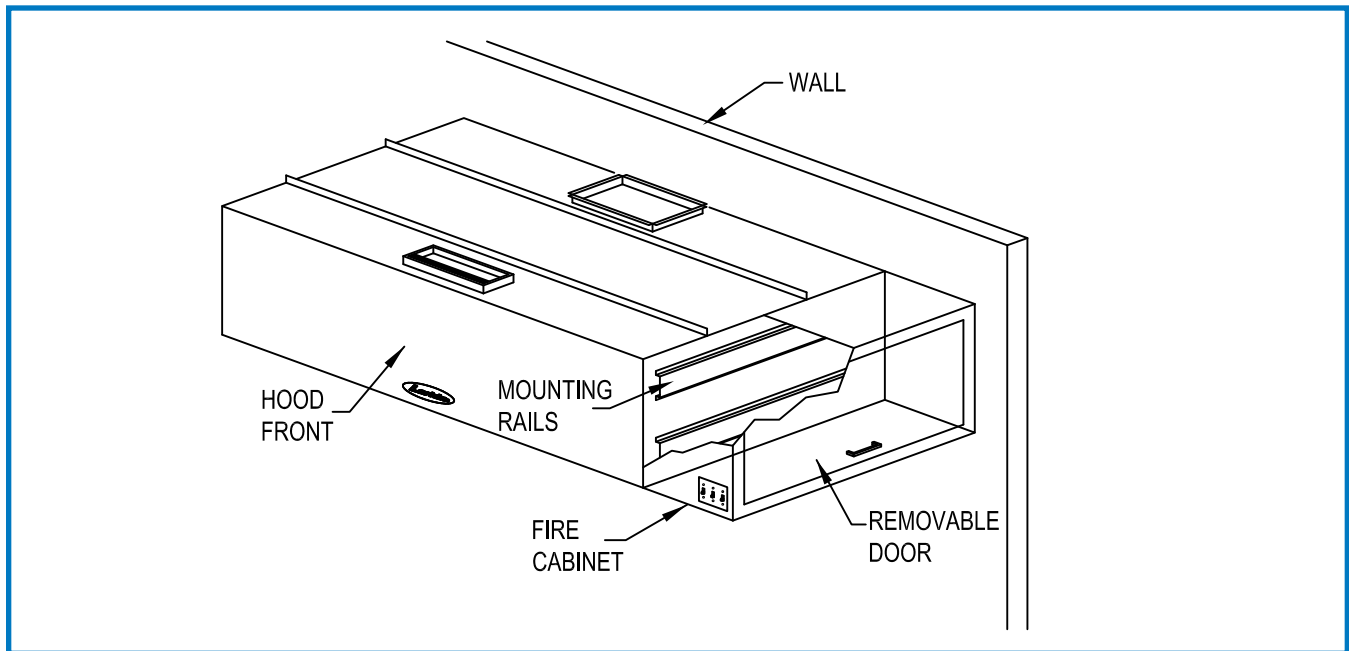


End panels are recommended for every hood installation to eliminate the effects of cross draft in the kitchen and optimize hood performance.

- Standard end panel shown
- Custom Shapes and sizes are available

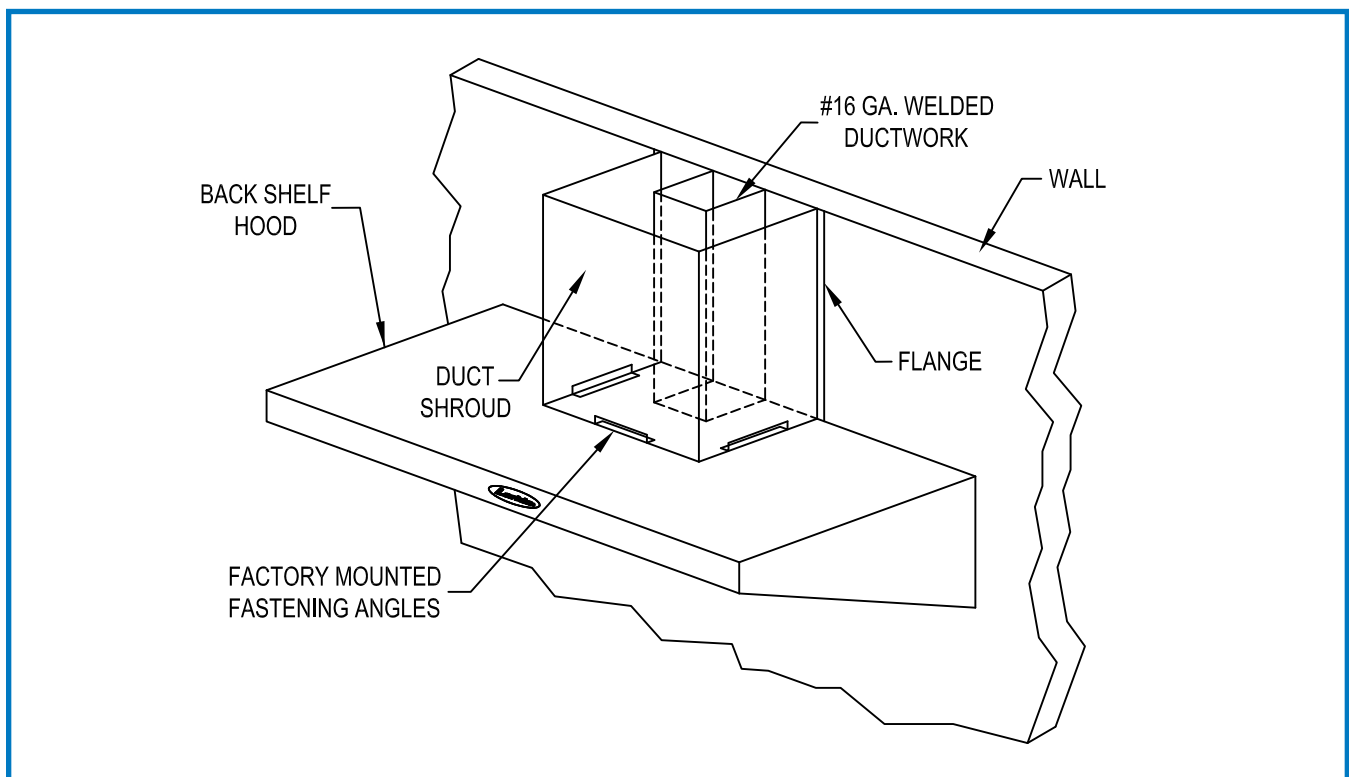


## Fire Cabinet

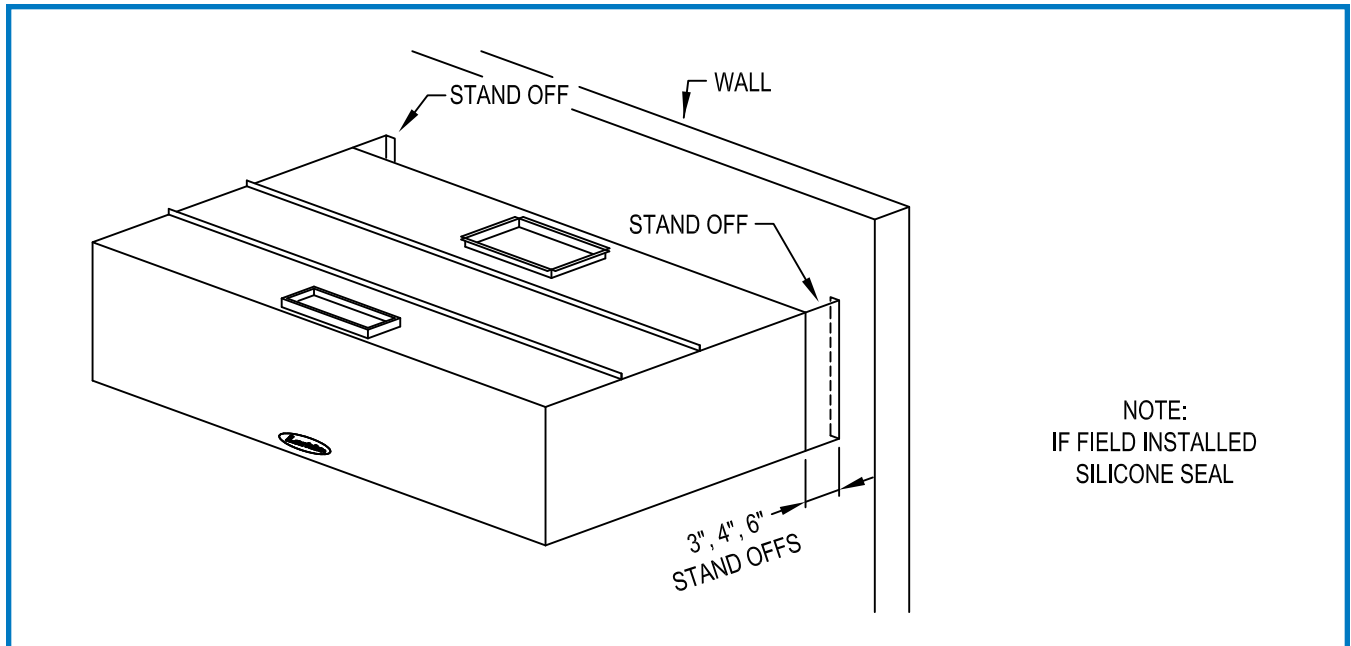


A 12" wide cabinet fabricated from the same material as the hood houses a factory piped fire suppression system or a field installed fire suppression system, ETL Listed pre-wired electrical control, and has an easily removable door.

## Duct Shroud



## Stand Offs



NOTE:  
IF FIELD INSTALLED  
SILICONE SEAL

### Optional Clearance Reduction Systems

In Compliance with NFPA 96, Section 4.2.3

| Wall Construction   | Clearance Reduction Systems |
|---------------------|-----------------------------|
| Non-Combustible     | None Required               |
| Limited-Combustible | 3" Uninsulated Standoff     |
| Combustible         | 3" Insulated Standoff       |

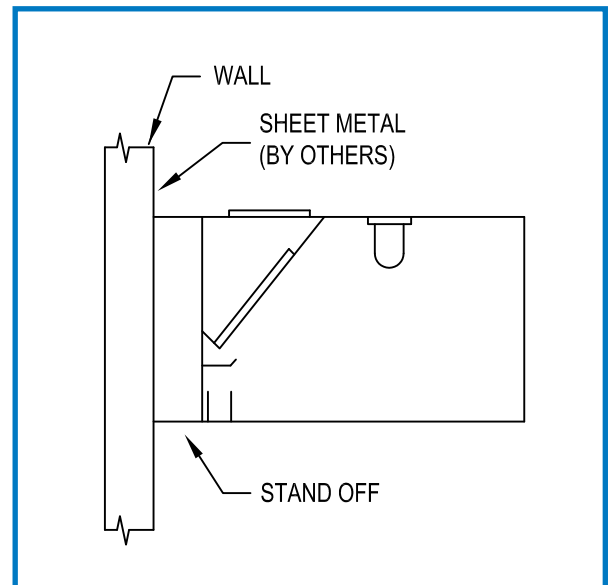
**NOTE:** For insulated stand off, insulation is provided and is to be field applied. Sheet metal wall covering is to be field supplied and mounted.

**Clearance:** Hoods, grease extractors, and ducts shall have a clearance of at least 18" (457.2 mm) to combustible material, 3" (76.2 mm) to limited combustible, and 0" to noncombustible material.

**Exception #1** When the hood, duct or grease extractor is listed for lesser clearances.

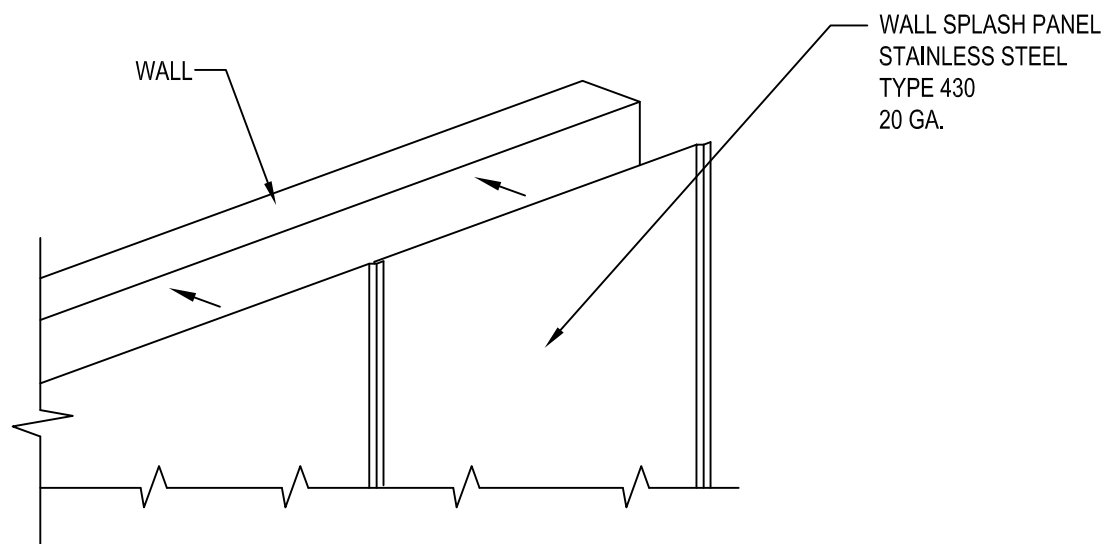
**Exception # 2** Clearance to combustible material is protected as follows:

| Type of Protection                                                                                                                                                                           | Clearance to Combustible Materials |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 0.013" (0.33-mm) (28 ga.) sheet metal spaced out 1 in. (25.4mm) on noncombustible spacers.                                                                                                   | 9 in. (228.6 mm)                   |
| 0.027" (0.69-mm) (22 ga.) sheet metal on 1" (25.4-mm) mineral wool bats or ceramic fiber blanket reinforced with wire mesh or equivalent spaced out 1" (25.4 mm) on non-combustible spacers. | 3 in. (75.2 mm)                    |

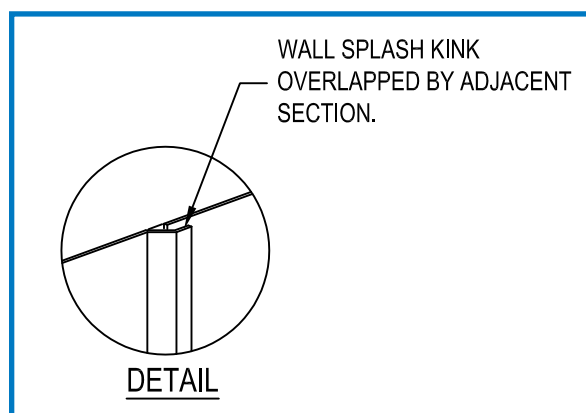


*Due to wide variations in state, county, and city codes, Larkin Industries, Inc. will not be responsible for the approval of any clearance system. Consult your local codes before installing any hood system.*

## Wall Splash Panels

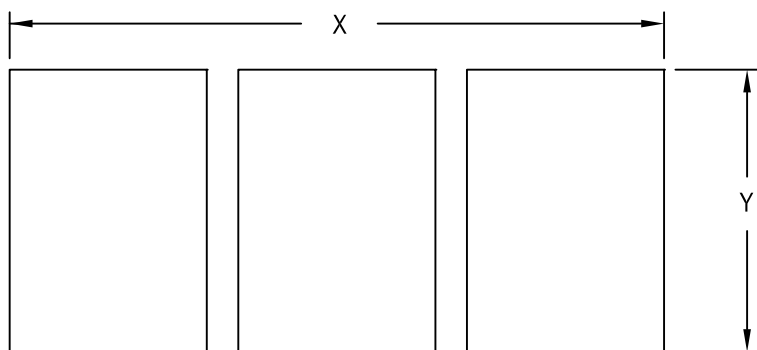


- Integral overlap
- No mullion strips to install
- Vertical panels for easy installation



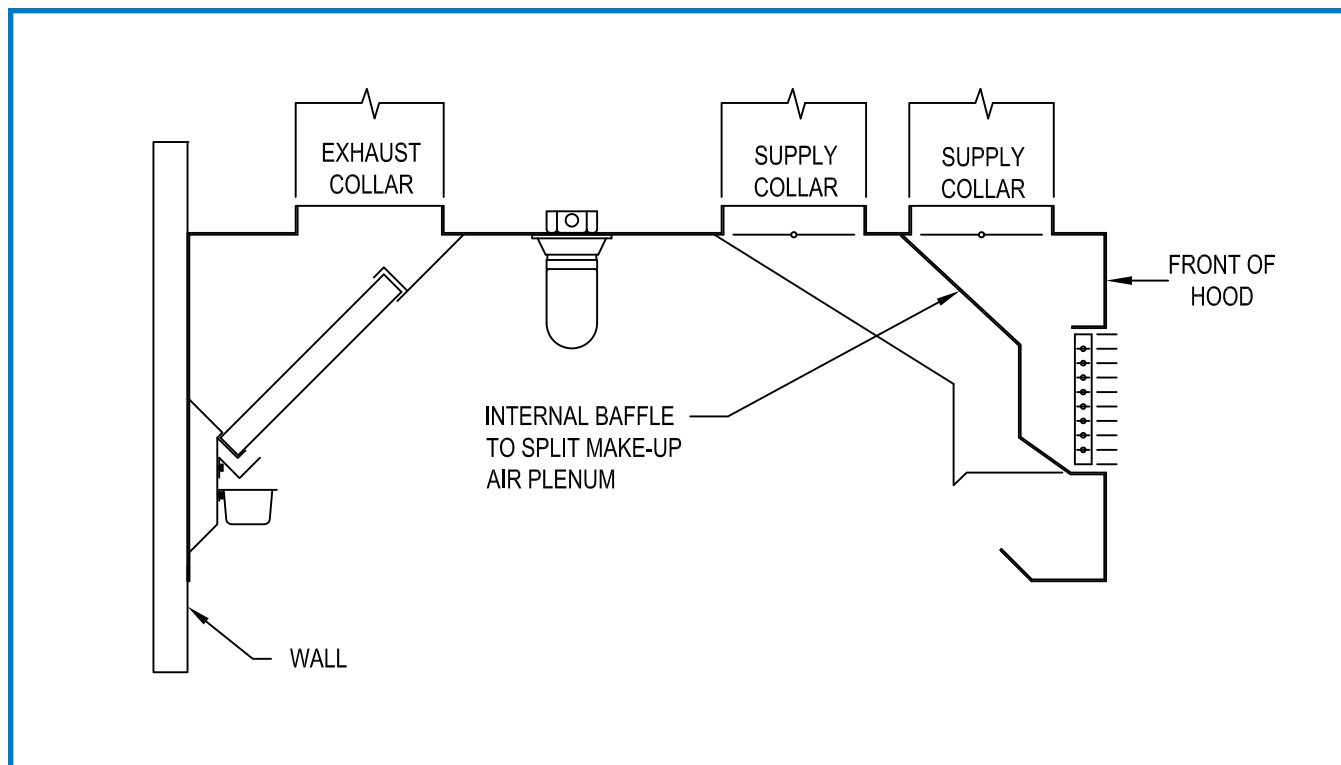
### Vertical Configuration

- Available in varying lengths and heights
- 78" full wall coverage
- Easily cleaned (*no mullion strips*)



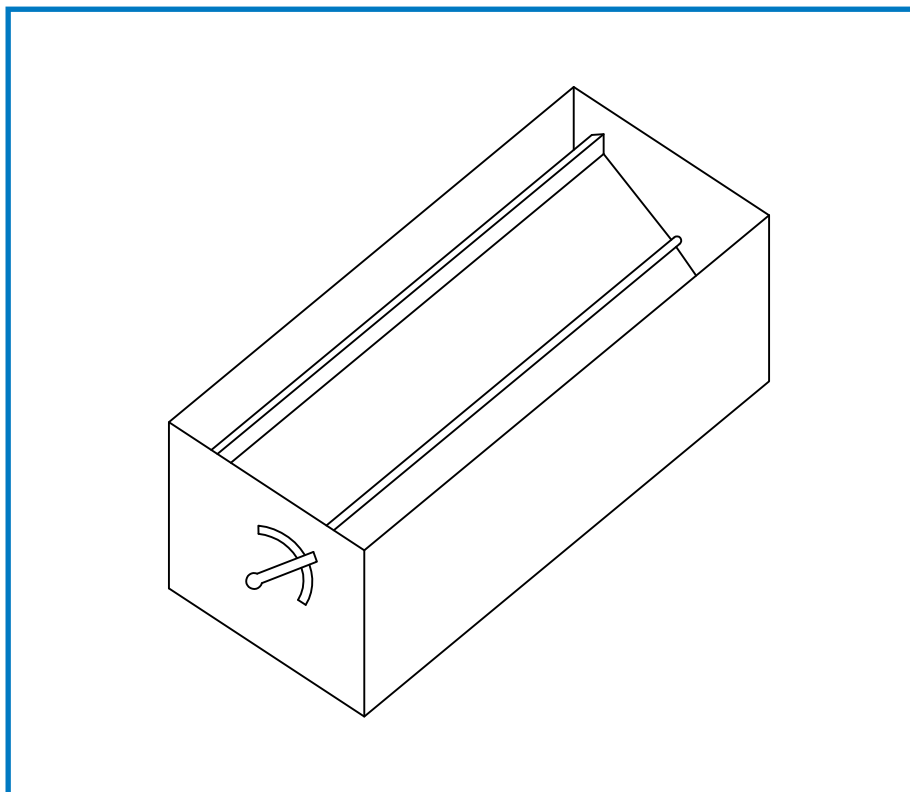
## Split plenums

Models SCRF and ACRF

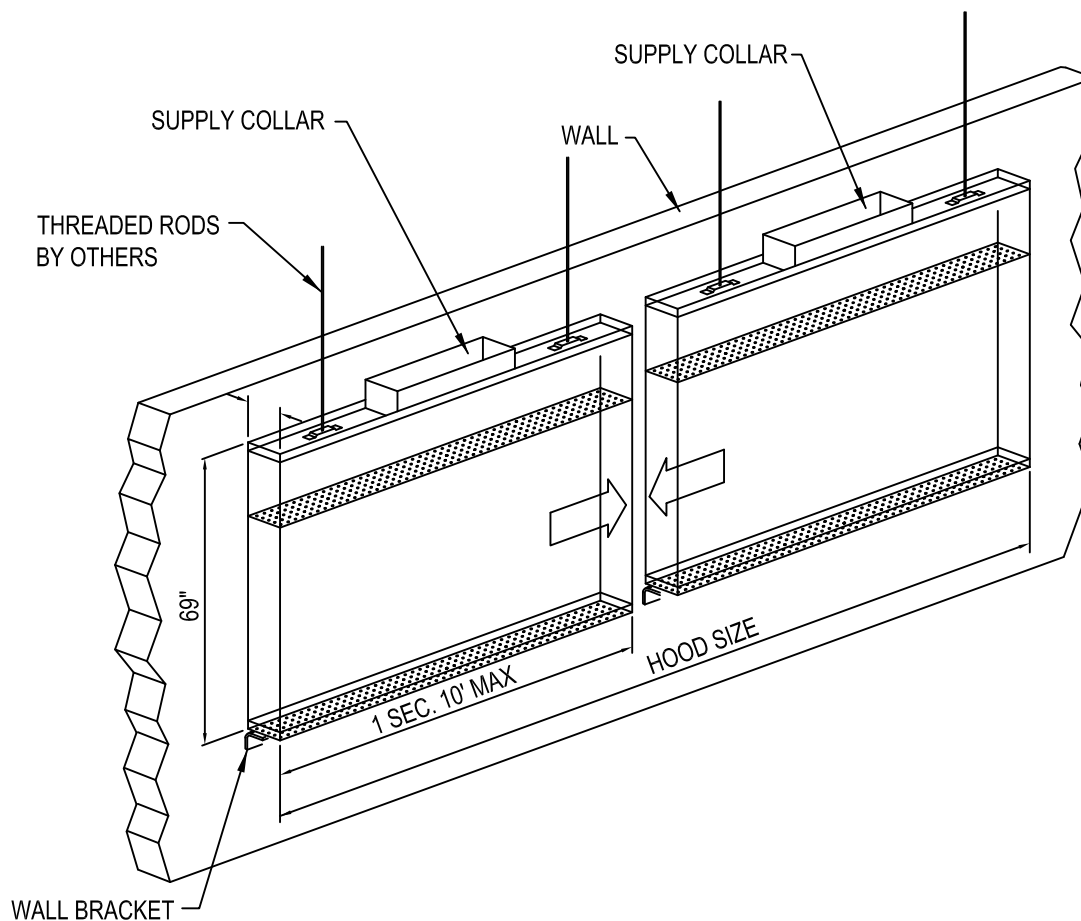


Split plenums may be required on models SCRF (*shown*) and ACRF. Split plenums require 2 supply collars with volume dampers and ensure proper make-up distribution reducing the amount of tempered air required.

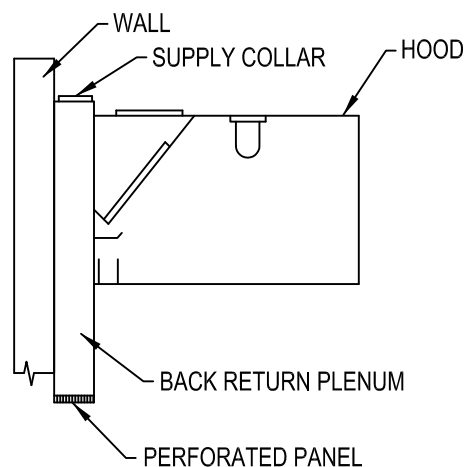
## Single Leaf Volume Damper



## Back Return Plenum



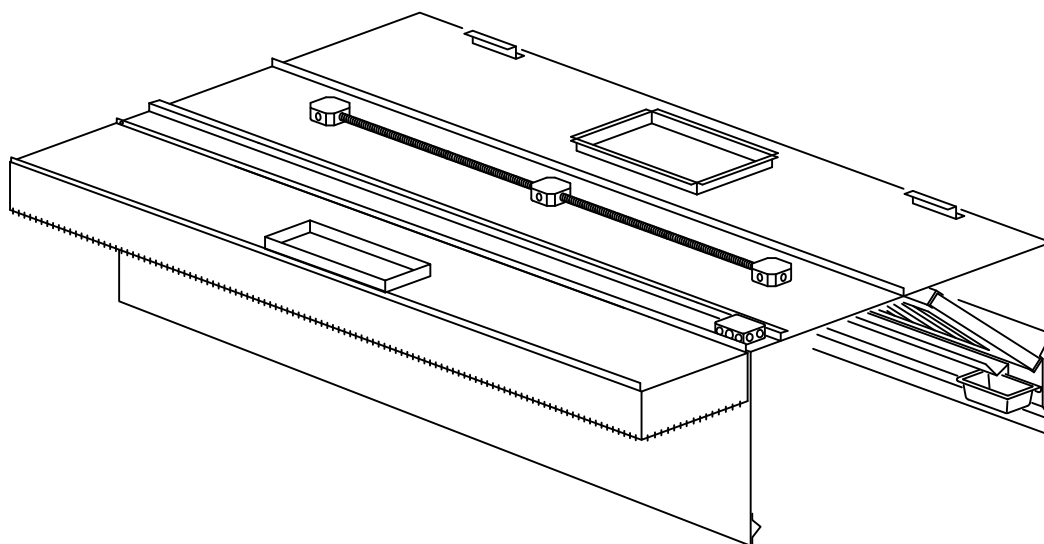
Back return plenum to be field fastened to wall. Plenums 4' Through 10' length are constructed in one section, over 10' in length are constructed in two sections. All supply collars are 24" x 6" (1) per section.





## FPSP

### Front perforated supply plenum



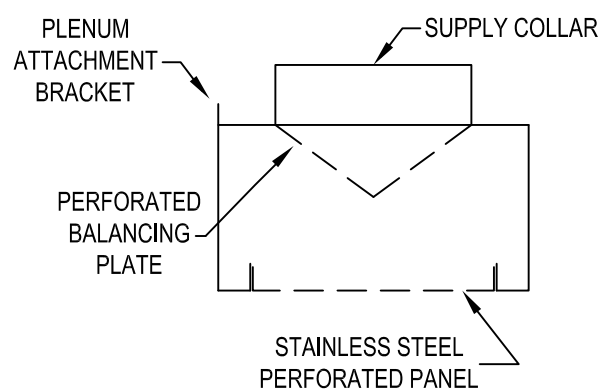
FPSP Plenums are to be field mounted on the front of the hood and hung by threaded rod or ceiling wire. Supply collars can be shipped mounted or loose. Plenums will be constructed in one piece up to 16' long.

#### Features

- 430 stainless steel construction
- Standard plenum width is 12" or 16"
- Standard plenum height is 6"

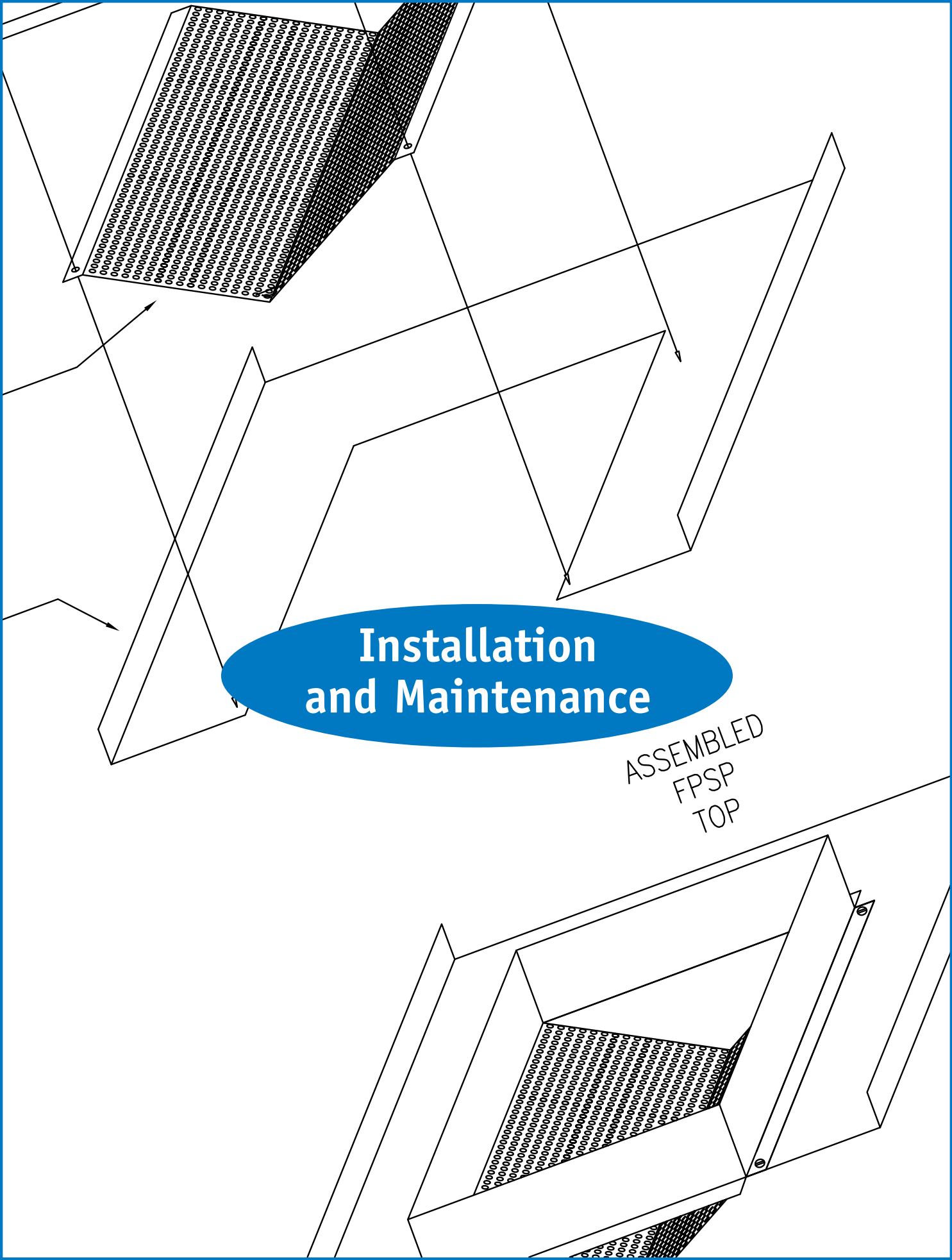
#### Options

- Fully Insulated 22" double discharge split plenums
- Custom sizes available
- Side Plenums available
- Available in 304 stainless steel



#### Benefits

- Easy to install
- Integral self balancing perforated panels discharge air along the full length of the hood
- Make up air is directed into the capture and containment area



The background of the page is a technical line drawing of a roof assembly. It shows a cross-section of a roof with a corrugated metal deck, insulation, and a waterproofing layer. A central blue oval contains the title 'Installation and Maintenance'. Arrows point from the oval to various parts of the roof assembly, indicating the areas of focus for the installation and maintenance instructions.

# Installation and Maintenance

ASSEMBLED  
FPSP  
TOP

## Hood Installation Instructions



All Larkin Industries, Inc. hoods are provided with hanging brackets on top of hood, 1/2" diameter threaded rod should be used with necessary nuts, washers, etc. Turnbuckles are recommended for leveling., Recommended mounting height from bottom edge of hood to finished floor is 6' 6", (18"-24" from bottom edge of filter for Back Shelf type models).

Hoods should be hung level, and where possible, the exhaust outlet should be in line with the exhaust fan opening. Duct runs, offsets, elbows, etc. should be as simple and direct as possible.

When uncrating, handling, or installing, the installer should exercise extreme caution to protect the stainless steel surfaces from damage, as they are costly to repair.

Consult project plans and determine exact location of the hood. Determine how the hood is to be hung and prepare the structural support system using inserts, angle iron, etc., and 1/2" threaded rod and turnbuckles.

When preliminary preparations have been made, prepare the hood for lifting by providing necessary manpower, forklift, crane, duct-jacks, etc. Be sure to provide adequate safeguards to prevent damage to the hood.

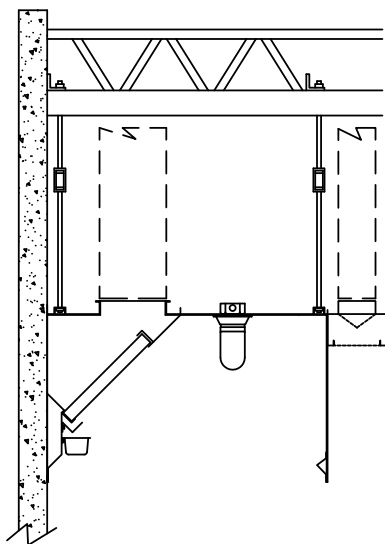
When all hanging material has been attached, lift the hood into position and secure to structural framing, leveling the hood by using the turnbuckles.

The Grease Tray is to be attached to the bottom of the filter rack and is sloped to drain into the removable grease container at one end of the hood.

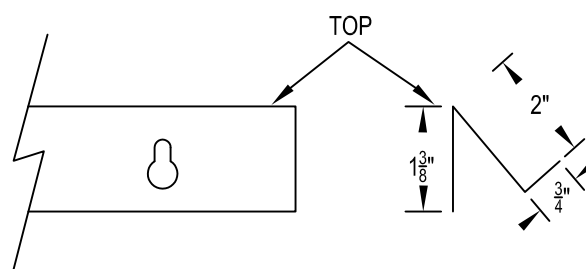
Baffle type grease filters should be installed. Unwrap grease container and attach to studs at end of grease trough.

Light bulbs are not furnished and are to be provided by the purchaser. Use any well-recognized brand with a maximum of 100 watts.

Protect canopy at all times by wrapping it in plastic or other suitable protective material, until all other work is accomplished and system is ready to be put into operation.



### Grease Trough



**Note** The small portion of the key hole should be up for proper installation.

## Installation Instructions for Field Installed Duct Collars

When Exhaust and Supply Collars are shipped loose (not connected to hood) and are intended to be field installed the following criteria must be met:

**Exhaust Collars:** Collar connections shall have liquid tight continuous external weld as per NFPA96 standards.

**Supply Collars:** Tack Weld to hood and seal. Install Fire Damper (when required).

Collars should be located in the center of hood (equal distance left to right). When (2) Exhaust and Supply Collars are supplied, equal increments across hood (Left to Right) should be maintained.

**Note** Loose collars are attached to the top of the hood with tack welds (Back of Crate). Break tack welds to remove collars. Exhaust Collars need to be folded square before installing. Fire Dampers are shipped loose inside of the hood.

**Ductwork** NFPA 96 requires that the exhaust duct be installed using 16 gauge carbon steel or 18 gauge stainless steel and all joints and seams be welded liquid tight. In any event, conformance to local codes must be adhered to unless variance is obtained.

NFPA 96 further requires that a minimum of 500 FPM velocity be maintained in the exhaust duct. There is no specified maximum; however, velocity should not exceed 2200 FPM.

Make-up air ductwork should contain adequate filtering provisions somewhere in the system before it is introduced into the space or into the hood. Consult a licensed mechanical contractor familiar with hood installations and code requirements.

**Wiring** Consult a Licensed Electrician to complete any wiring that is required.

**Start-Up** Determine that the installation is complete and in accordance with the project plans and specifications, that the duct system is complete, and that all electrical connections have been made.

Electrical systems should be installed with disconnecting means, proper fusing and proper grounding system to protect against hazardous shock.

By physical observation, check the supply and exhaust fans for proper operation by checking voltage, motor overload, noise level, amperage, rotation, etc. Verify that motors and bearings have proper lubrication and that the belts have proper tension. Deflection in belt tension should not exceed 1/2". Check that the air intake filters are in place and clean and that the fire damper in the hood supply collar is open. If the airflow as measured is not in accordance with the project specifications, adjust the speeds of the respective fans as required and re-check.

After the system has been placed in operation and balancing of the system has been accomplished, a visual inspection should be made of the entire system. This inspection should include such things as unusual noises, excessive exhaust or supply air and general operation of the system.

Always instruct the owner/operator in the proper operation and maintenance of the system.

## Maintenance

**Hood** Inspect the grease extractors daily for grease deposits. Inspect the grease container daily and empty. Wipe the interior of the hood daily, if possible, to remove deposits or accumulations of grease. Clean the interior of the hood and clean the light fixtures.

Once each week, wash the grease extractors in a dishwasher or other container with a mild detergent in warm or hot water. NEVER USE HARSH OR ABRASIVE CLEANERS ON STAINLESS STEEL.

**Note** *If a kitchen ventilation hood is cleaned with a pressure-washer or steam cleaner, the silicone sealant will be removed from the sealed seams. Also, standard daily cleaning, over time, will loosen the seal and the silicone will be removed from the sealed seams. The sealant may be replaced, after a thorough cleaning and de-greasing, with a food grade, high temperature silicone.*

**Fans** Check cleanliness of intake filters every two weeks for a one-month period to establish a cleaning schedule. To clean filters, flush filters with warm soapy water and recoat with a filter coat adhesive. Replace filters and lid. Check condition of fan drive belts upon initial installation and again after a period of two weeks. Belts tend to stretch during the initial period of operation and should be inspected monthly. Properly adjusted belt tension will allow approximately 1/2" deflection on each side of the belt, midway between the pulley centers with slight finger pressure. Overly tightened belts will cause wear, motor overloading, bearing wear and noise. Under tightened belts will cause belt wear, pulley wear and poor fan performance.

A monthly cleaning of exhaust wheel and interior of the fan housing is required. Oil and/or grease all motors and bearing every six months, or as conditions dictate.

At least once a year, check motor and fan shafts. Clean and check tightness and alignment

## One-Year Warranty

Except for motors (*see separate warranty on motors*), Larkin Industries, Inc. warrants to its purchaser that each ventilator manufactured by Larkin shall be free from defects in material and workmanship for a period of one year from the date of shipment by Larkin to the original Purchaser, if the ventilator has been subjected to normal use and service. If it appears within the warranty period that any such ventilator or material used therein does not meet the warranties specified above, the Purchaser must notify the Company immediately. Failure to notify within a reasonable time, voids the warranty. The Company agrees to remedy any such defect promptly by either repair or replacement, at the Company's sole discretion of any alleged defective part (*exclusive of motors covered separately herein*). Cost of installation or removal of any failed unit or part thereof will be the sole responsibility of the Purchaser.

This warranty does not guarantee the proper design or installation of any ventilator nor is there any warranty concerning the ability of the ventilator to remove smoke, grease or heat. There is no warranty that the ventilator will be approved by, or meet, any local codes. This is a material warranty only. If the equipment has been altered or repaired in any way, the Company shall have the right, in its sole discretion to void the warranty. If the equipment has been improperly installed, subjected to misuse, been subjected to negligence, been subjected to accident, or been improperly maintained or lubricated, the Company shall have the right, in its sole discretion, to void the Warranty.

**Note** Replacement of silicone sealant is not covered by any warranty, expressed or implied, that is issued by Larkin Industries, Inc.

## Back Shelf Hood Installation



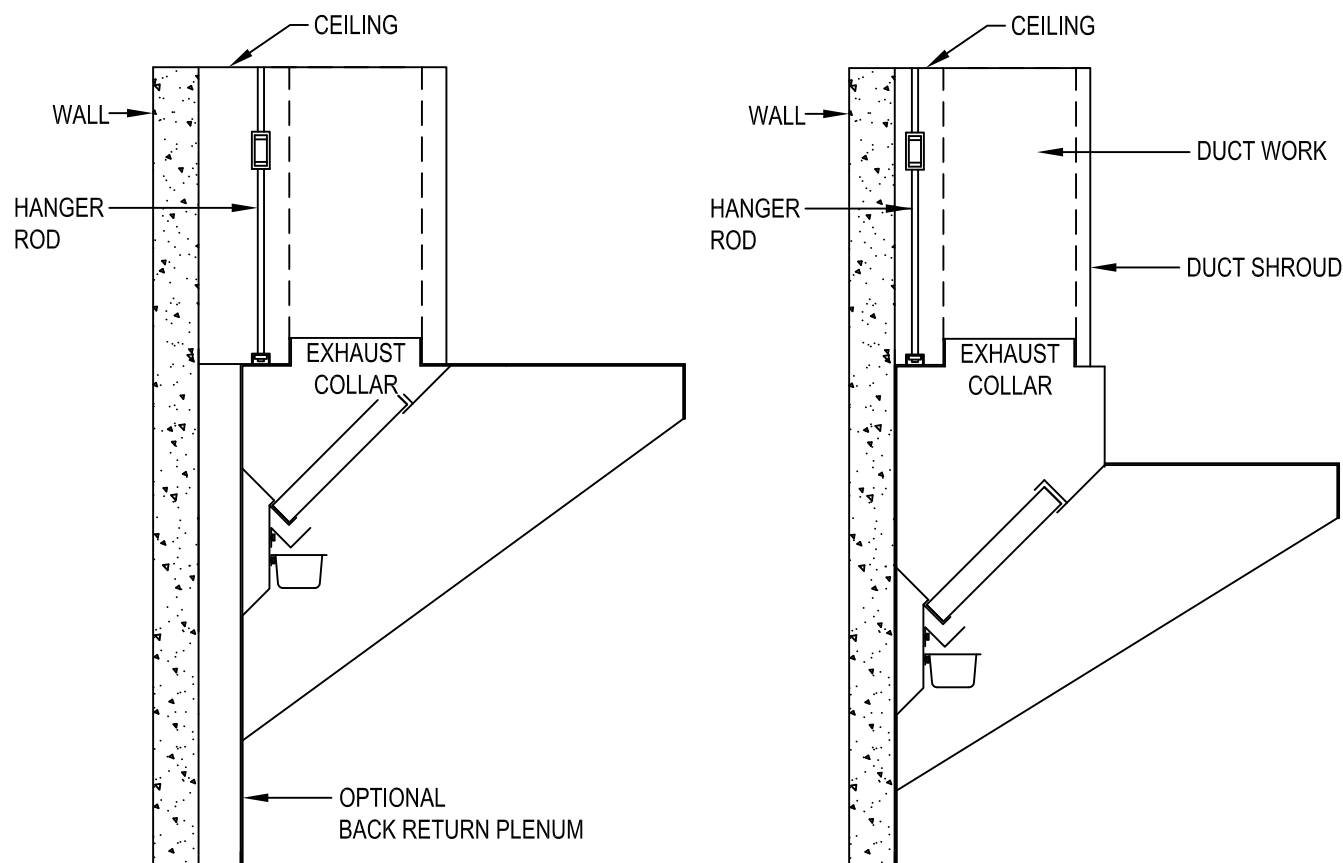
Larkin Industries, Inc. backshelf hoods are provided with hanging brackets on top of hood. 1/2" diameter threaded rod should be used with necessary nuts, washers, etc. Turnbuckles are recommended for leveling. Recommended mounting height from bottom edge of filters to top of cooking surface should be 18" to 24". Extreme caution should be exercised to protect all hood surfaces from damage.

When plans have been checked, move packing crate with hood enclosed to proper location in the kitchen. Remove from packing crate being careful not to damage hood.

Carefully lift and support the hood into place using duct jacks or other means. Hood is to be mounted to wall at bottom using bolts, screws, etc. through bottom flange.

It is the installers responsibility to verify that the wall to which the hood is being attached has the structural integrity to bear the weight of the backshelf hood.

It is recommended that a duct shroud of the same material as the hood be mounted from top of hood to finished ceiling in order to enclose all exposed ductwork.



# Installation and Maintenance Instructions

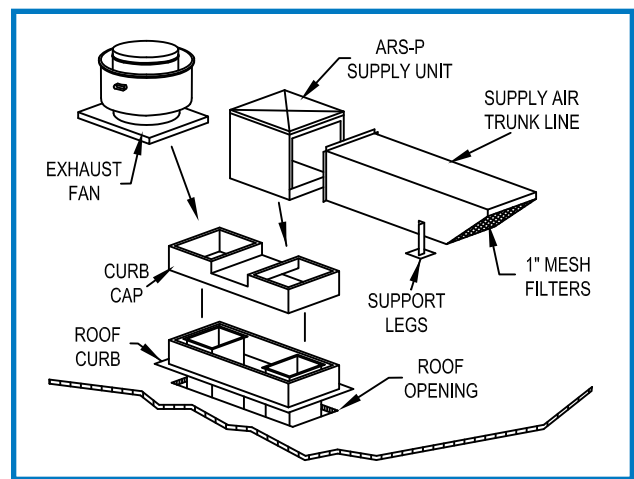
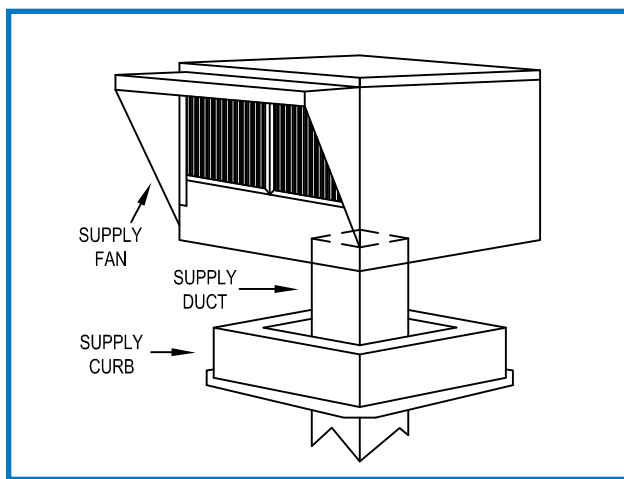
## Model ARS Supply Fan



**Installation:** The supply fan curb should be placed as required by the project specifications. (ARS-P Fans require Curb Cap for Exhaust Fan & Supply Fan).

**CAUTION:** NFPA 96 requires that the fresh air intake be a minimum of 10' from the exhaust outlet.

After installing the supply curb, install the supply duct down through the curb and set the fan, securing it to the curb with screws, anchor bolts, or other fasteners. Motor and blower pulley should be aligned and motor mounted securely. Motor must be adjusted until about 1/2" deflection of the belt is noted with finger pressure in the middle of the belt. All wiring must be done in conformance with the National Electric Code and local ordinances involved. Check for proper voltage and phase. Unit should be started momentarily to check rotation of blower wheel.



**Start-up:** Determine that the installation is complete and in accordance with the project plans and specifications, that the duct system is complete and that all electrical connections have been made. Consult a Licensed Electrician.

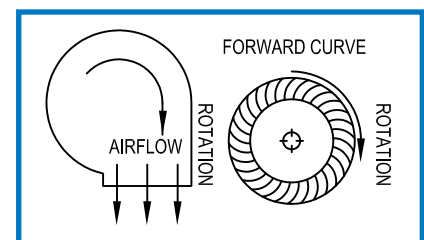
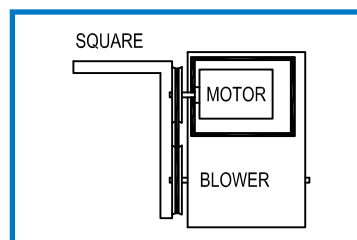
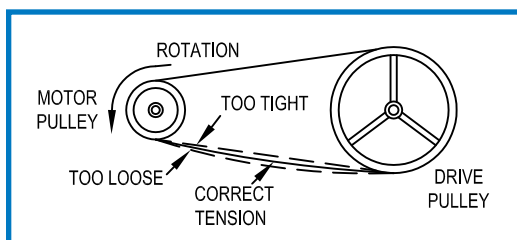
Place the system into operation as provided for in the control sequence.

Adjust motor pulley for required CFM. Compare motor amperage with nameplate on motor. Unit should be rechecked after 3 days of operation for proper amperage of motor, belt tension, belt alignment, rotation and to ensure all bolts and set screws are tight and blower is still properly aligned.

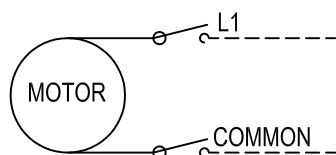
Verify that motors and bearings have proper lubrication and that the belts have proper tension. Deflection in belt tension should not exceed 1/2".

Check that the air intake filters are in place and clean and that the fire damper in the hood supply collar is open. If the airflow as measured is not in accordance with the project specifications, adjust the speeds of the respective fans as required and re-check.

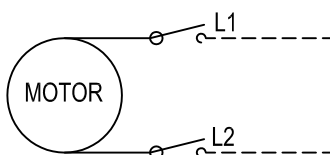
After the system has been placed in operation and balancing of the system has been accomplished, a visual inspection should be made of the entire system. Always instruct the owner/operator in the proper operation and maintenance of the system.



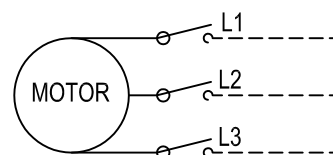
## Motor Wiring



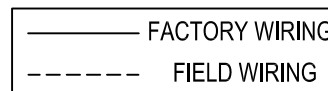
115 VOLT 1 PHASE



208/230 VOLT 1 PHASE



208-230/460 VOLT 3 PHASE



## Maintenance

**Fan Packages** Check cleanliness of intake filters every two weeks for a one-month period to establish a cleaning schedule. To clean filters, lift off lid of supply section and remove filters. Flush filters with warm soapy water and recoat with a filter coat adhesive. Replace filters and lid.

Check condition of fan drive belts upon initial installation and again after a period of two weeks.

Belts tend to stretch during the initial period of operation and should be inspected monthly.

Properly adjusted belt tension will allow approximately 1/2" deflection on each side of the belt, midway between the pulley centers with slight finger pressure. Over tightened belts will cause wear, motor overloading, bearing wear and noise. Under tightened belts will cause belt wear, pulley wear and poor fan performance.

A monthly cleaning of exhaust wheel and interior of fan housing is required. Heavy grease build-up is a fire hazard and can also cause wheels to be unbalanced. This leads to bearing wear and undue noise.

Inspect supply fan periodically to make sure that the unit is still soundly mounted, setscrews are tight, and bearings are lubricated where required. Clean wheel when necessary to prevent fan imbalance and loss of air.

At least every six months, all electrical connections should be inspected and checked for tightness. Oil and/or grease all motors and bearings every six months or as conditions dictate.

At least once a year, check motor and fan shafts. Clean and check tightness and alignment

**One Year Warranty** Except for motors (*see separate warranty on motors*), Larkin Industries, Inc. warrants to its purchaser that each ventilator manufactured by Larkin shall be free from defects in material and workmanship for a period of one year from the date of shipment by Larkin to the original Purchaser, if the ventilator has been subjected to normal use and service. If it appears, within the warranty period that any such ventilator or material used therein does not meet the warranties specified above, the Purchaser must notify the Company immediately. Failure to notify within a reasonable time, voids the warranty. The Company agrees to remedy any such defect promptly by either repair or replacement, at the Company's sole discretion of any alleged defective part (*exclusive of motors covered separately herein*). Cost of installation or removal of any failed unit or part thereof will be the sole responsibility of the Purchaser.

This warranty does not guarantee the proper design or installation of any ventilator nor is there any warranty concerning the ability of the ventilator to remove smoke, grease, or heat. There is no warranty that the ventilator will be approved by, or meet any local codes. This is a material warranty only. If the equipment has been altered or repaired in any way, the Company shall have the right, in its sole discretion, to void the warranty. If the equipment has been improperly Installed, subjected to misuse, been subjected to negligence, been subjected to accident, or been improperly maintained or lubricated, the Company shall have the right, in its sole discretion, to void the warranty.

**Motor Warranty** Electrical motors carry the warranty of the motor manufacturer. Larkin Industries, Inc. makes no warranty of any kind what so ever on electric motors and buyer's sole and exclusive remedy shall consist of whatever warranty the motor manufacturer makes. Larkin makes no warranty as to the MERCHANTABILITY or that the goods will be fit for any particular purpose. Larkin Industries, Inc shall not be responsible for any incidental or consequential damages, the purchaser's sole and exclusive remedy being the repair or replacement set forth above. Larkin Industries, Inc. shall have no responsibility for loss of use of the equipment, loss of time, down time, inconvenience, commercial loss, consumer loss, loss of profits, or any other injuries or damages beyond the repair or replacement as set forth hereinabove. Larkin industries, Inc. shall not be responsible to purchaser, or anyone else for any negligence, breach of contract, or damages, except as specifically set forth herein.

This warranty is expressly in lieu of all other warranties, whether expressed or implied, and in lieu of any and all obligations or liabilities on the part of the Company. The Company neither assumes, nor authorizes anyone to assume for it, any liability which is not set forth in the manufacturer's warranty. In the event Larkin Industries, Inc. receives a verbal order, there shall be no warranty that the goods will be shipped as ordered. All such orders are shipped at the risk of the buyer.



# Exhaust Fan Installation and Maintenance Instructions



## Installation

If exhaust fan is included in the Rooftop Package, refer to that section.

When exhaust fan is separately mounted, every effort should be made to place the exhaust fan curb directly over the exhaust opening in the hood.

If the roofing is bonded, care should be taken to insure that the bond on the roof is still valid.

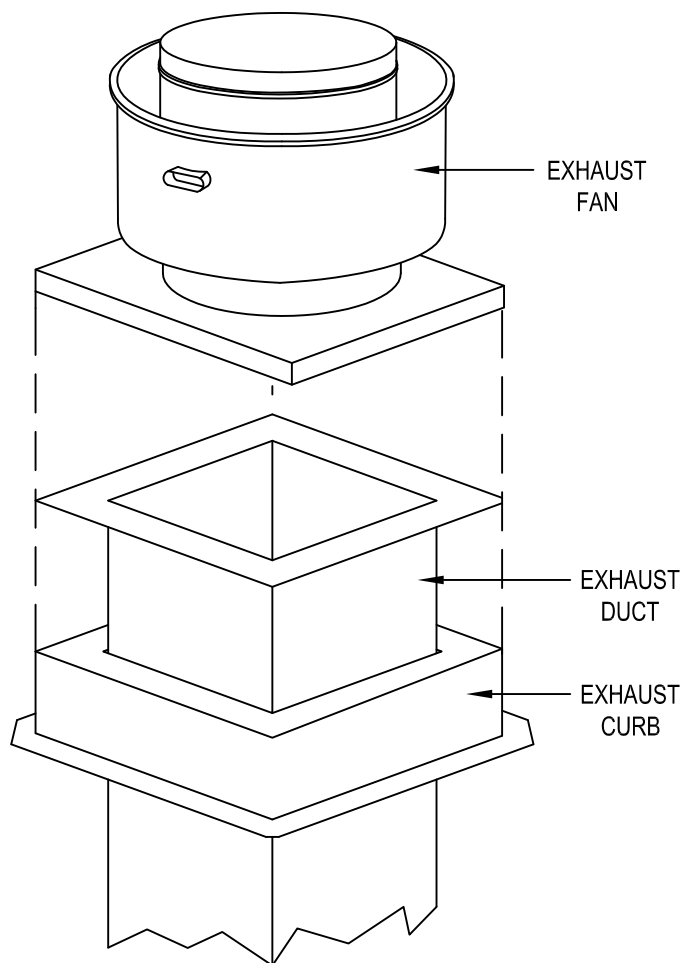
After installing the roof curb, install the exhaust duct before mounting the exhaust fan.

**CAUTION:** Check local codes or governing ordinances. NFPA 96 states that the exhaust duct will terminate "with the discharge at least 40" clearance from the outlet to the roof surface."

Most jurisdictions will permit the exhaust fan outlet to satisfy this requirement, which is permissible to NFPA 96 when the curb is at least 18" above the roof.

If stationary conduit passage is through the roof outside roof curb, it is not permissible to feed power supply lines through cooling tubes of exhaust fan.

Secure the exhaust fan to the curb through the vertical portion of the ventilator base assembly flange by means of lag screws, anchor bolts or other suitable fasteners.



## Start Up

The exhaust fan should be wired in accordance with the National Electric Code and project plans and specifications.

1. Tighten all set screws in wheel.
2. Tighten all set screws in bearings. Repeat after 8 hours of operation. Check periodically under normal maintenance inspection.
3. Rotate impeller to insure free movement.
4. Check drive assembly for pulley alignment and belt tightness.
5. Check motor volts and phase against field supply voltage and phase. See name plate on motor for changing voltage.
6. Check fan rotation and motor amp draw against name plate on motor.

Adjustments to fan speed effect motor load. If fan RPM is changed, the motor current should be checked to be sure it is not exceeding motor name plate AMPS.

## Maintenance

Belts tend to stretch during the initial period of operation & should be inspected monthly. Properly adjusted belt tension will allow approximately 1/2" deflection on each side of the belt, midway between the pulley centers with slight finger pressure. Over tightened belts will cause wear, motor overloading, bearing wear and noise. Under tightened belts will cause belt wear, pulley wear, and poor fan performance.

A monthly cleaning of exhaust wheel and interior of fan housing is required.

Heavy grease build-up is a fire hazard and can also cause wheels to be unbalanced. This leads to bearing wear and undue noise. At least every six months, all electrical connections should be inspected & checked for tightness.

Oil and/or grease all motors and bearings every six months or as conditions dictate.

At least once a year check motor and fan shafts. Clean and check tightness and alignment



## Automatic Fan Control System Installation Instructions

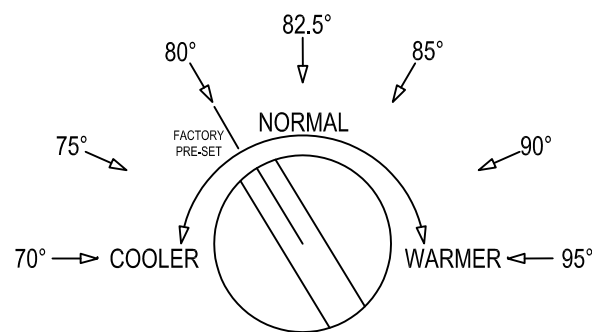


**SINGE HOOD WIRING** The Larkin Auto Fan Control System is factory prewired and is interlocked with a standard Larkin Industries Wiring Package for either Three Phase or Single Phase. The only field wiring connection should be in the wiring package, in accordance with Wiring Diagram provided and the Electrical Code Requirements. Consult a Licensed Electrician.

**MULTIPLE HOODS** A 2 Switch Panel, one Auto Fan Control and a Wiring Package can control up to a four Section Hood. Each hood will have it's own Hood Sensor. Field Connections of the sensors are required as per the Wiring Diagram. 4x4 Junction Boxes, Flexible Metal Conduit with connectors and Terminal Strips are provided on the top of each hood.

**SYSTEM OPERATION INFORMATION** To comply with the International Mechanical Code 507.2.1.1 the fans must energize automatically as cooking operation commences. This means that the Auto Fan Control System must over ride the Fan Switch any time heat is detected by the Hood Sensor. Any temperature (including room temperature) over the preset mark of 80° on the dial located on the Hood Switch Panel will activate the fans.

To eliminate the problem of fans energizing automatically in warm or hot kitchen environment (over 80°) or not energizing quick enough in a cool environment, the Auto Fan System is fully adjustable by means of a dial on the Switch Panel The dial has a factory preset mark at 80°, a cooler, normal and warmer setting. In a conditioned space (72°- 77°) the preset to normal settings should work well. The illustration below shows the actual temperature of the settings on the 7 Position Dial at which the Hood Sensor must reach to energize the fans.



### Auto Fan Control Adjustment

**IMPORTANT NOTICE** The fans will de-energize when the Hood Sensor cools 1 1/2° below the set temperature. The Fan Switch can energize the fans at any time, however, the Fan Switch can only de-energize the fans if the Hood Sensors have cooled and the 30 Minute Timer has expired. The system cannot **de-energize** the fans unless the Fan Switch is in the **Off Position**.

After cooking equipment is turned off the fans will continue to operate until the Hood Sensor cools 1 1/2° below set point. However, the residual heat from griddles, char-broiler grates or fryer grease will reheat the Hood Sensor causing the fans to cycle on and off. This shortens the life of the contactor and fan motors. To eliminate this problem the Larkin Auto Fan Control System has a built in cool down period of 30 minutes. This timer can be adjusted if needed. The timer is **removed** from the system with a jumper wire at the factory for Testing and Inspection purposes. It is important to remove the jumper located in the small 8 x 8 Wiring Box between Test Port 2 and Test Port 3, after any Test and Inspections are complete to eliminate any fan cycling.

**TEST PROCEDURES** To conduct a test of the system for an inspection, place the Fan Switch in the **Off Position**, now rotate the dial on the Hood Switch Panel toward the cooler position until the fans energize, then rotate the dial towards warmer until the fans de-energize, set dial at that position. Conduct the Test by turning on cooking equipment or applying heat to the Hood Sensor located in the center of the hood just in front of the Grease Filters. (For multiple hood systems, when any of the Hood Sensors detect heat above the set point the Auto Fan System will energize the fans). After the heat source is removed and the Hood Sensor cools below the set point on the dial the fans will de-energize (for multiple hood systems all sensors must cool below set point). **Notice:** After the Test and Inspection is complete remove the jumper wire between Test Port 2 and Test Port 3. This will activate the 30 Minute Timer.

**OPERATION** The Auto Fan Control System is now fully operational and the 30 Minute Timer is now in operation. If the dial is rotated toward cooler the fans will energize (if the room temperature is high enough), and will not de-energize until the dial is set warmer and timer expires. Operation Instructions are on the front of the hood under the Switch Panel.



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