

# SMART AIRE™

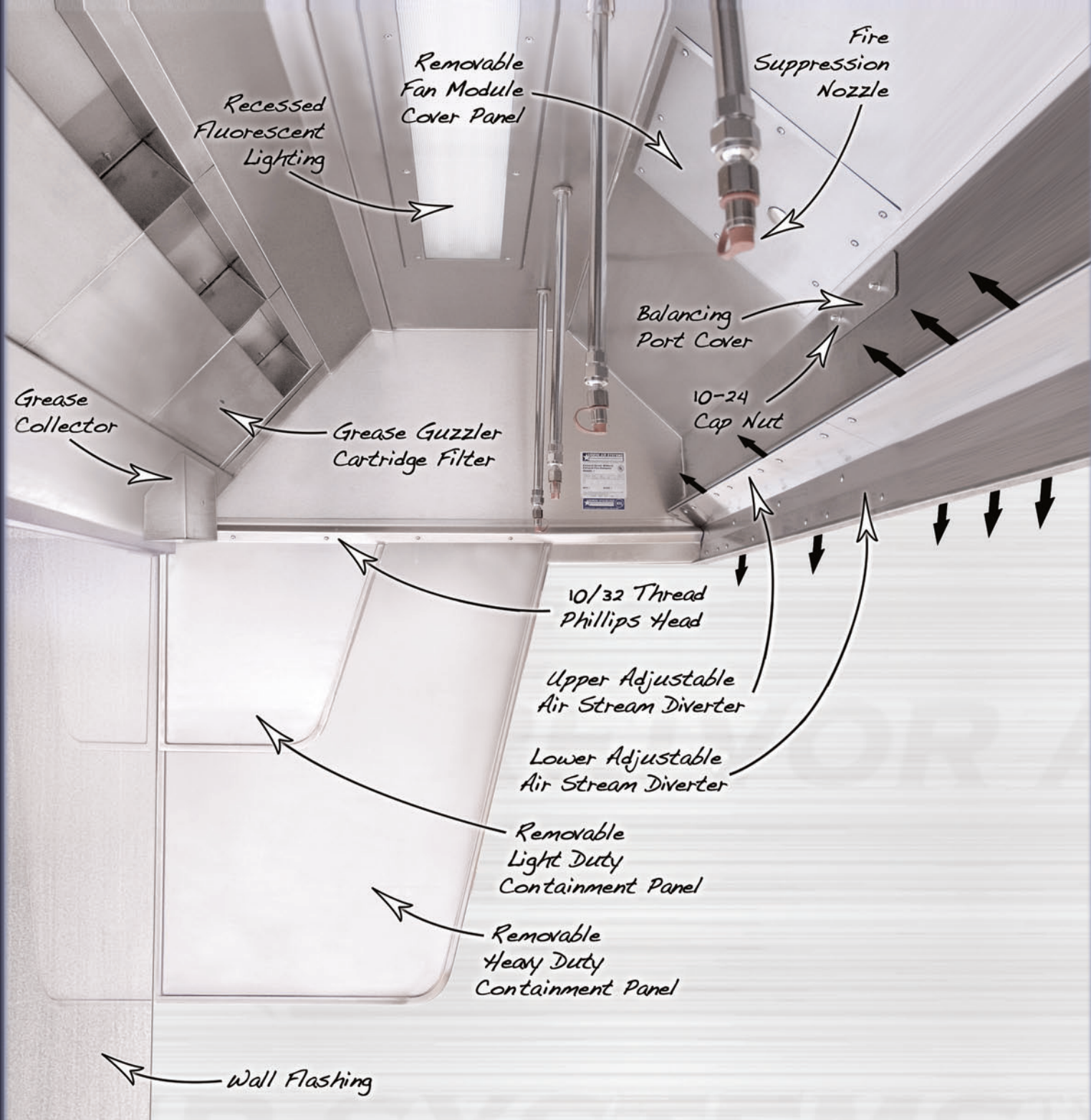
**STREIVOR TAKES THE LEAD IN ENERGY EFFICIENT  
KITCHEN VENTILATION TECHNOLOGY**



**• PATENT PENDING SEGMENTED AIR STREAM TECHNOLOGY •**







## Design Specifications

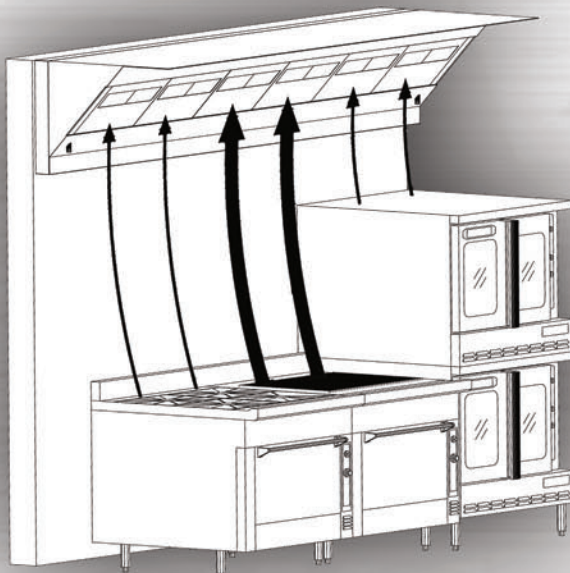
To be model SA-CR, a wall canopy box design hood with an exhaust plenum in the back of the hood fitted with U.L. Classified 1046 high slot high velocity adjustable cartridge filters, and a supply plenum located in the front of the hood. This is fitted with a supply fan(s) supplying air to two air streams beneficially located on the inside of the hood supply plenum that have adjustable baffle segments, 20" maximum length along the length of the hood manufactured by Streivor Air Systems™.

Model SA is to be fabricated from 18 Gauge minimum type 304 stainless steel (where exposed), external seams are welded liquid tight, all exposed surfaces will be polished to a #3 or #4 finish, built in compliance with NFPA Standard # 96, U.L. Listed 710 and NSF approved, the hood will have a full length semi-concealed grease track that pitches to a removable grease collector. Filters to be mounted at no less than a 45 degree angle and will be locked in place during normal operation by means of an upper and lower holding track. Supply collars will be fitted with UL Classified fire dampeners. The hood will have U.L. 1571 Listed light fixtures, NSF approved for restaurant use and will be pre-wired to a single connection point.



The engineers at Streivor Air Systems™ set out with one goal in mind, to develop the most energy efficient Commercial Kitchen Wall Canopy Hood ever.

Our Smart Aire (SA) hood is engineered to be installed over varying types of cooking equipment with various types of cooking techniques and cooking temperatures, yet utilize the lowest possible total hood exhaust flow rates to exhaust all of the effluents being produced by the cooking equipment.



### • Adjustable Grease Guzzler™ Air Flow •

underneath the hood. Quite often a common cook line will have several pieces of cooking equipment that cook at lower temperatures relative to the other pieces in the cook line, yet since prior hood designs did not have the capability of segmenting the hood, the benefit of lower exhaust flow rates over the lower temperature pieces of cooking equipment could not be realized.

The Streivor Air Systems™ Wall Canopy Hoods with Smart Aire™ are the first ever hoods that can be adjusted into segments to take advantage of the lower exhaust rates required to exhaust lower temperature cooking equipment that is installed in the same cook line under one hood with higher temperature cooking equipment.

The Smart Aire™ hood is fitted with the patented Streivor Air Systems Grease Guzzler™ high slot high velocity adjustable cartridge filter and two adjustable air streams which run continuously along the length of the hood.

Each cartridge filter and each air stream is adjustable in 20" increments. Segments of the hood that require lesser amounts of exhaust air can be adjusted to exhaust less air than areas of the hood that require more exhaust. As a result a hood with Smart Aire™ can take full advantage of those areas of the hood that are installed over cooking equipment with lower cooking temperatures and require less amounts of exhaust air, and redirect that saved exhaust air to an area of the hood that will be benefited with higher exhaust flow rates.

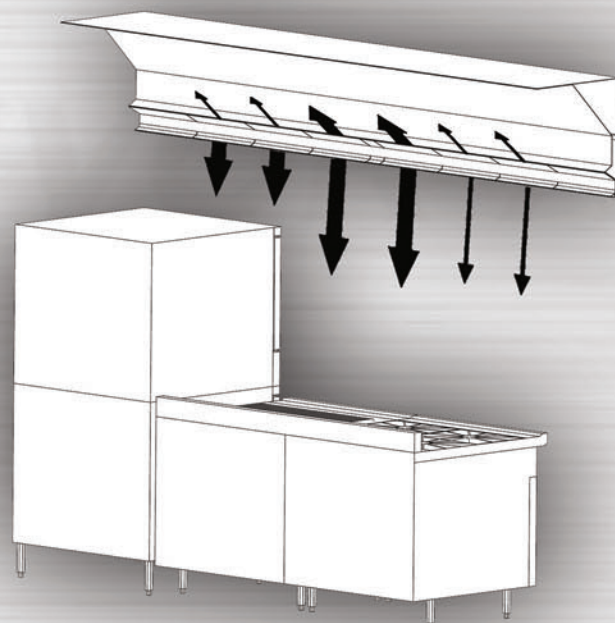
The adjustability of the air streams also adds additional hood efficiencies and energy savings. Streivor Air Systems™ research showed that unique adjustments to the air streams could be very beneficial in enhancing the capture and containment characteristics of the hood for varying cooking equipment and temperature. Adjustments such as increasing the lower air stream and upper air stream supply volumes over charbroilers, and increasing the lower air stream and decreasing the upper air stream supply volumes over convection ovens and decreasing the lower air stream and upper air stream supply volume over steam ranges showed to be beneficial.

Every aspect of the hood was looked at for ways in which to improve the fluid dynamics of the air movement within the hood to enhance the capture and containment capabilities of the interior and exterior of the hood canopy.

The addition of low volume high velocity air streams were researched. When they were found to be beneficial in improving the capture and containment characteristics of the hood as well as reducing the amount of radiant heat escaping from the cook line into the kitchen they were strategically engineered into the hood design.

Another significant break through in energy efficiency came as a result of Streivor Air Systems™ engineers inventing the totally new concept Smart Aire™, Segmented Air Stream Technology. Smart Aire™ allows a larger hood to be segmented into individual smaller hood segments along the length of the hood body.

A main reason that past wall canopy hood designs were less energy efficient than Streivor Air Systems™ wall canopy hoods with Smart Aire™ was due to the fact that the minimum hood exhaust rate was determined by the hottest piece of cooking equipment underneath the hood. That minimum exhaust rate was then multiplied by the length of the hood without any consideration given to the other types of cooking equipment that were installed in the same cook line



### • Adjustable Smart Aire™ Air Flow •



# Engineered Hood Drawings

Streivor Air Systems™ in house engineering team has 18 continuous years of working with architects, engineers, and food service consultants. That experience has resulted in the most detailed and accurate engineered hood drawings in the industry.

## STREIVOR AIR SYSTEMS

10000 1ST STREET • HAYWARD, CALIFORNIA 94545

without Exhaust

—CR180 1446024



MH18376

Net supply air flow CFM/FT. of hood length	Min. Overhang		Max. cooking surface temperature
	Open Side	Front	
25	6	6	600°

HOOD # H1

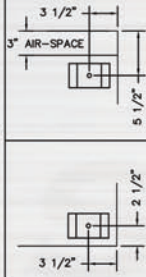
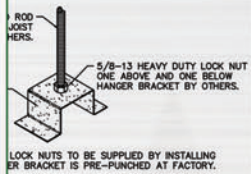
supply air flow rates may be required for complete specific installation.  
classified filters only.  
VAC 60 Hz 12 AMPS 1/0

## HOOD PLATE

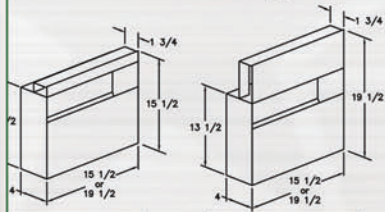
ATTACHED TO HOOD

BRACKET LOCATIONS SHOWN  
BACK AND LEFT SIDE 3" AIRSPACE

## BRACKET HANGER



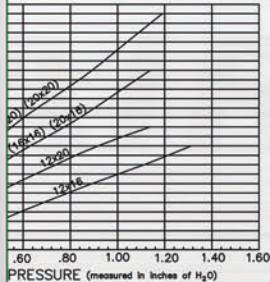
## SE GUZZLER™ CARTRIDGE FILTER



MODEL	EFFECTIVE AREA	WEIGHT
S1616	0.40	10 lbs.
S1620	0.51	11 lbs.

MODEL	EFFECTIVE AREA	WEIGHT
GG2016	0.40	11 lbs.
GG2020	0.51	12 lbs.

## PERFORMANCE CHARACTERISTICS



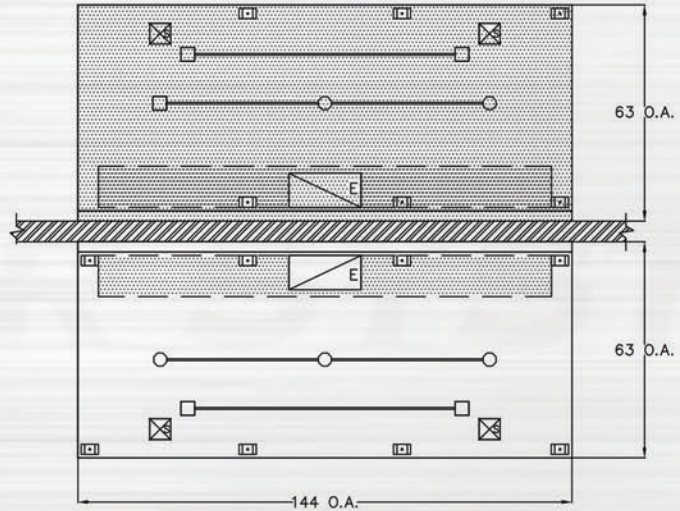
## STATIC PRESSURE

STATIC PRESSURE  
SIZE INCHES (HEIGHT x WIDTH)

16x16	16X20	20X16	20x20
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0.13	0.09	0.09	0.09
0.19	0.14	0.14	0.14
0.26	0.20	0.20	0.20
0.38	0.26	0.26	0.26
0.50	0.35	0.35	0.35
0.63	0.45	0.45	0.45
0.77	0.55	0.55	0.55
0.90	0.65	0.65	0.65

## HOOD #H2



ALL  
STEEL C

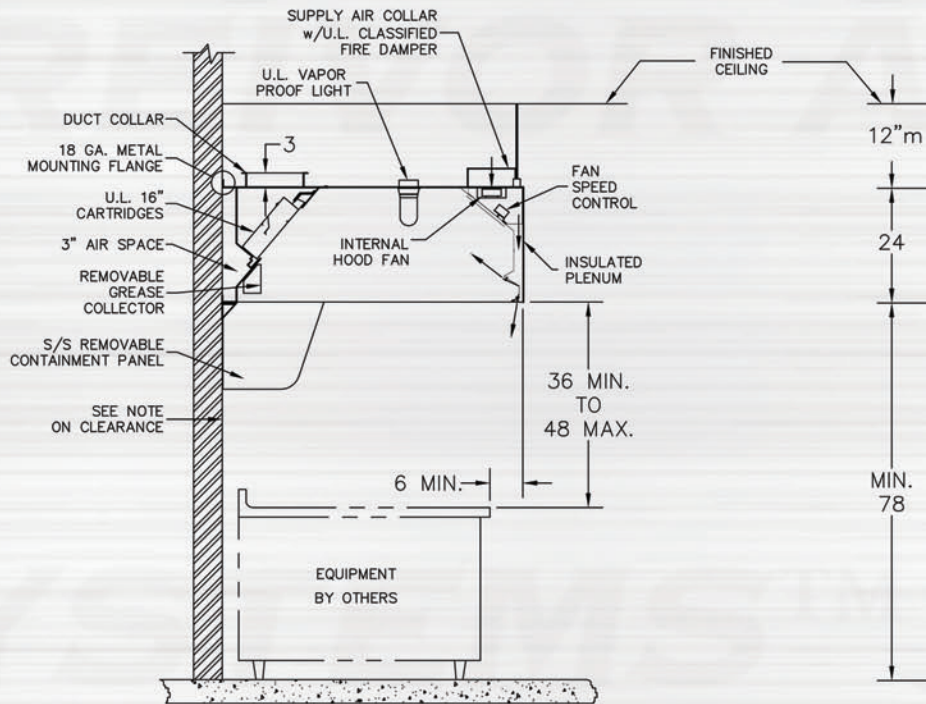


INTERNAL H  
FAN J

INTERNAL HOOD  
SUPPLY COLL  
DO NOT NEE  
FIELD CONNEC  
6Lx6W

## HOOD #H1

PLAN VIEW  
N.T.S.



## SECTION VIEW

### NOTE:

- RECESSED INCANDESCENT REQUIRES 8" ABOVE HOOD CONSULT FACTORY FOR VARIANCE.
- RECESSED LIGHTING CLEARANCES OVERRIDES NOTE BELOW

### NOTE:

- A 6" MINIMUM CLEARANCE IS REQUIRED ABOVE ALL HOODS. CONSULT FACTORY FOR VARIANCE.
- ALL DIMENSIONS ARE IN INCHES

# STREIVOR AIR SYSTEMS - HOOD WIRING DETAIL

CUSTOMER SUPPLIED 120V POWER



STAINLESS  
CONSTRUCTION

EXHAUST COLLAR EXHAUST COLLAR MUST  
BE INSTALLED WITHIN  
THE SHADED AREA.

SPECIFY:  SHIPPED LOOSE  
 FACTORY WELDED  
(COLLAR WILL BE SHIPPED LOOSE IF NOT SPECIFIED)

SUPPLY COLLAR(S)\* WILL BE FACTORY WELDED.  
\*CONSULT FACTORY FOR ALTERNATE LOCATION(S).

CLEARANCE NOTE

IT IS THE RESPONSIBILITY  
OF THE ARCHITECT/OWNER  
TO ENSURE THAT THE HOOD  
CLEARANCE(S) FROM  
LIMITED-COMBUSTIBLE AND  
COMBUSTIBLE MATERIALS IS  
IN COMPLIANCE WITH ALL  
APPLICABLE CODE REQUIREMENTS

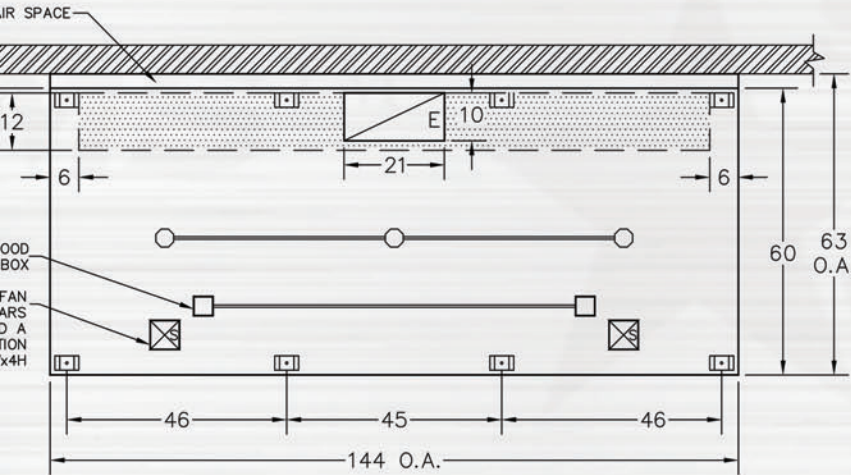


DESIGN SPECIFICATIONS

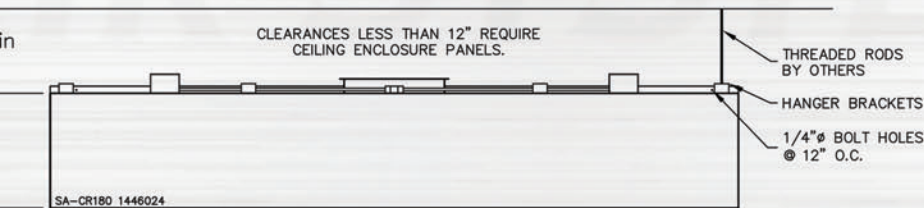
TO BE MODEL SA-CR180 AN EXHAUST WALL CAP  
EXHAUST PLENUM, WITH A COMPENSATING AIR  
HOOD THAT HAS TWO HORIZONTAL AIR SLOTS  
THE LENGTH OF THE LOWER INNER SECTION.  
ALLOW FOR THE ADJUSTMENT OF THE CHANNEL  
DIRECTED IN A DOWNWARD INWARD DIRECTION  
DIRECTED IN AN UPWARD INWARD POSITION.  
A FAN THAT IS TO BE INSTALLED WITHIN THE  
IS TO BE CAPABLE OF SUPPLYING AN AIR VOLUME  
EQUIVALENT TO 01 CFM TO 25 CFM PER FOOT

THE MODEL SA-CR180 IS FABRICATED FROM 16  
EXTERNAL SEAMS ARE WELDED LIQUID TIGHT  
POLISHED TO A #3 OR #4 FINISH. THE SA-CR180  
STANDARD #96, U.L. LISTED 710, AND IS NSF  
LENGTH SEMI-CONCEALED GREASE TRACK TRAP  
COLLECTOR. FILTERS TO BE U.L. CLASSIFIED  
MOUNTED AT NO LESS THAN A 45° ANGLE. A  
NORMAL OPERATION BY MEANS OF AN UPPER  
FILTER, TO HAVE U.L. LISTED FIRE DAMPER IN  
AND ALUMINUM SINGLE BLADE DIFFUSERS LO

THE HOOD WILL BE EQUIPPED WITH U.L. LISTED  
APPROVED FOR RESTAURANT USE AND WILL  
POINT.



PLAN VIEW



FRONT ELEVATION

FACTORY RECOMMENDS  
12" OVERHANG ON  
CHARBROILERS LOCATED  
AT OPEN END OF HOOD.

HOOD

TYPE 1 U.L. LISTED #710  
MODEL# SA-CR180 1446024  
U.L. LISTED EXHAUST AIR FLOW RATE  
AREA LENGTH. CAPTURE AREA LENGTH  
 $144 \div 12 = 12.0$  FT X  $1800$

HOOD

DUCT SIZE =  $21 \times 10 + 14$   
NUMBER OF DUCTS =  $1 \times 1.46$   
TOTAL CFM =  $2592$  + TOTAL DUCT SIZE  
AIR VELOCITY.

STATIC PRESSURE

HOOD/FILTER  $1.50$  SP  
ELBOWS  $VIF$  SP

EXHAUST

MANUFACTURER \_\_\_\_\_ M  
MOTOR \_\_\_\_\_ HP \_\_\_\_\_ V  
EXHAUST CFM \_\_\_\_\_ AT \_\_\_\_\_

MAKE UP AIR

MANUFACTURER \_\_\_\_\_ M  
MOTOR \_\_\_\_\_ HP \_\_\_\_\_ V  
SUPPLY CFM \_\_\_\_\_ AT \_\_\_\_\_

RECOMMENDED AIR

# --- EXHAUST AIR FROM HOOD  
# --- EXHAUST AIR FROM PLENUM  
# --- EXHAUST AIR FROM HOOD  
# --- EXHAUST AIR FROM HOOD  
TOTAL EXHAUST AIR FROM HOOD

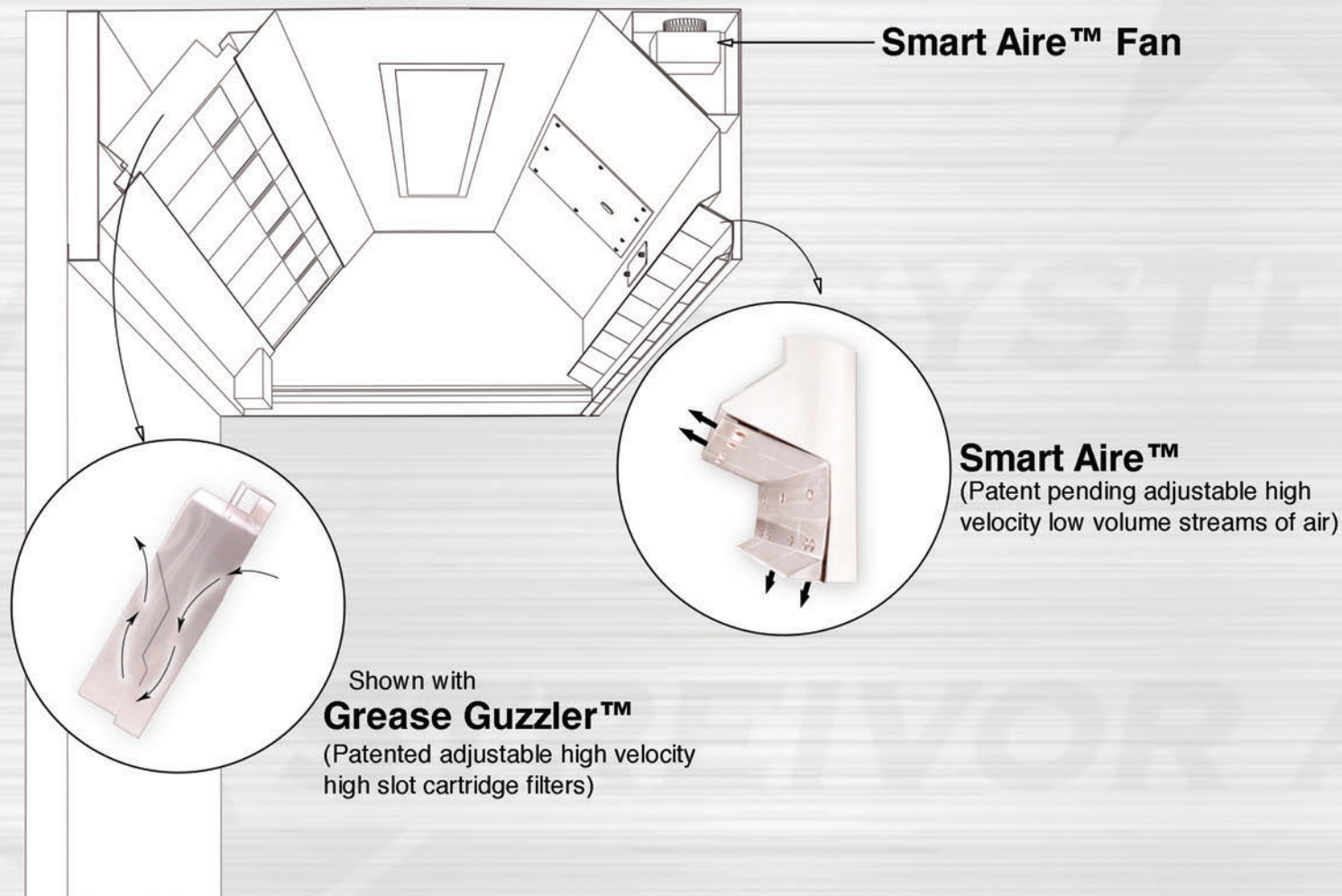
HOOD WEIGHT: 435

# --- MUA TO HOOD  
# --- MUA TO ADD-ON PLENUM  
# --- MUA TO HOOD  
# --- MUA TO ADD-ON PLENUM  
# --- MUA HOOD  
# --- MUA TO ADD-ON PLENUM  
# --- MUA TO HOOD



# Smart Aire Wall Canopy Box Design

## Ventilation Hood with Smart Aire™ Segmented Air Stream Technology



## Energy Efficient • Environmentally Friendly

Streivor Air Systems™ hoods with Smart Aire™ technology are one of the most energy efficient wall canopy hoods ever invented.

Smart Aire™ is achieved by engineering Streivor Air Systems™ patented Grease Guzzler™ adjustable high velocity high slot cartridge filters and the Streivor Air Systems™ patent pending Smart Aire™ technology adjustable high velocity low volume streams of air into a Streivor Air Systems™ canopy hood design.

Smart Aire™ allows a Streivor Air Systems™ hood of any length to be segmented into individual unique hood segments as small as 20 linear inches.

Smart Aire™ allows the airflow in each hood segment to be individually adjusted. The exhaust and supply air flow can be increased or decreased, to achieve the most optimum airflow rate for the capture and containment of effluents exhausting from specific cooking equipment installed directly under each individual hood segment.

### SA

Series / Model	Min. Exhaust CFM/FT.	Max. Supply Air CFM/FT.	Cooking Equipment	Max. Temp.
SA120	120	25	Steamers, kettles, ovens, tilting skillets, cheese melters, ranges, pizza ovens, electric griddles, electric fryers, gas griddles, gas fryers, hot tops, upright broilers	400°F
SA180	180	25	All of the above plus woks, electric charbroilers, gas charbroilers	600°F

\*Containment Panels™ are optional, light duty and heavy duty

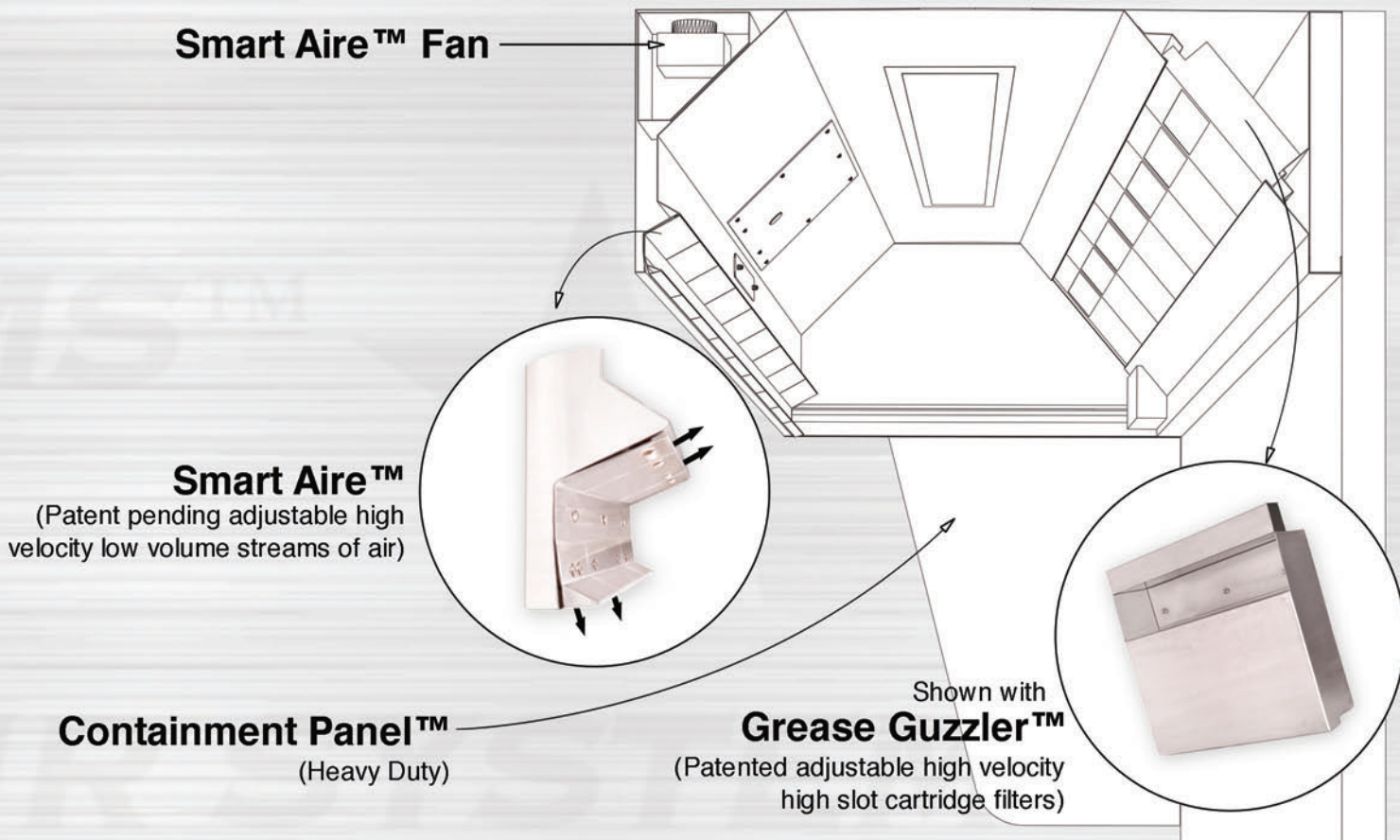




# Smart Aire with Containment Panel

## Wall Canopy Box Design

### Ventilation Hood with Smart Aire™ Segmented Air Stream Technology



## Maximum Energy Efficient • Environmentally Friendly

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Smart Aire™ allows the airflow in each hood segment to be individually adjusted. The exhaust and supply air flow can be increased or decreased, to achieve the most optimum airflow rate for the capture and containment of effluents exhausting from specific cooking equipment installed directly under each individual hood segment.

Streivor Air Systems Containment Panels™ can be added to any Streivor Air Systems™ hood with Smart Aire™ technology. Streivor Air Systems™ hoods fitted with Streivor Air Systems Containment Panels™ can achieve up to an additional 33% reduction in exhaust flow rates.



				<b>SACP</b>
Series / Model	Min. Exhaust CFM/FT.	Max. Supply Air CFM/FT.	Cooking Equipment	Max. Temp.
SACP*80	80	25	Steamers, kettles, ovens, tilting skillets, cheese melters, ranges, pizza ovens, electric griddles, electric fryers, gas griddles, gas fryers, hot tops, upright broilers	400°F
SACP*160	160	25	All of the above plus woks, electric charbroilers, gas charbroilers	600°F

\*CP Hood requires heavy duty Containment Panels™ on the open ends of the hood

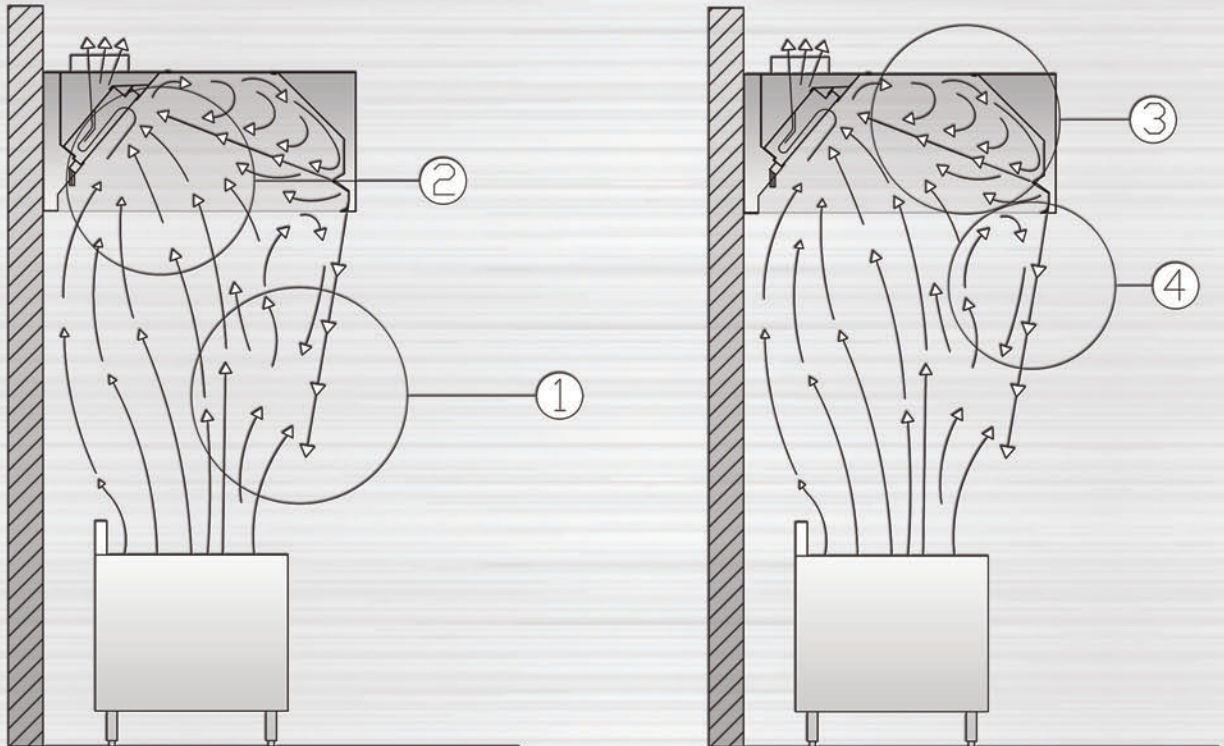


# The Four Steps to Energy Efficiency with Smart Aire™

Streivor Air Systems™ Wall Canopy Box Design hoods with Smart Aire™ technology are fabricated with two continuous adjustable high velocity low volume streams of air along the length of the front interior of the hood. Each Hood is equipped with one lower and one upper air stream that work in combination to increase the capture and containment efficiency of the hood.

Each air stream is positioned and directed to obtain the maximum positive benefits of a stream of air with the minimum amount of negative turbulence.

The lower air stream directs a stream of air in an inward downward direction towards the front of the cooking equipment. The upper air stream directs a stream of air in an inward and upward direction toward the exhaust opening in the Grease Guzzler™ cartridge filter.



## Step One

The lower air stream forms an air curtain that interacts with the heated plume that is rising in an upward and outward direction from the cooking equipment. The air stream creates a barrier that contains the outward movement of the plume.

## Step Two

The heated plume rising up into the hood interacts with upper air stream. The upper air stream pushes the rising plume towards the back of the hood where the majority of the heated plume is exhausted on its first pass by the filter opening.

## Step Three

A portion of the heated plume may not be exhausted as it passes by the filter exhaust opening the first time. This portion of plume will continue past the exhaust opening in the filter and follow the inner contours of the hood. The upper air stream interacts with the plume coming down from the top of the hood that has bypassed the exhaust opening in the filter, keeping the plume up in the hood and pushing the plume towards the back of the hood where it is exhausted through the filter.

## Step Four

The lower air stream forms an air curtain originating at the lower portion of the back edge of the front of the hood. The air curtain acts as a barrier that stops any outward movement of the plume from under the hood and creates a low pressure arrow that draws room air towards the exhaust hood.



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