JES

Jet Extraction System

The Jet Extraction System (JES) has been specifically designed for display cooking areas or architectural cooking concepts integrating electric appliances with medium input power.

The JES is highly effective providing full capture and containment thanks to the synergy of several features:

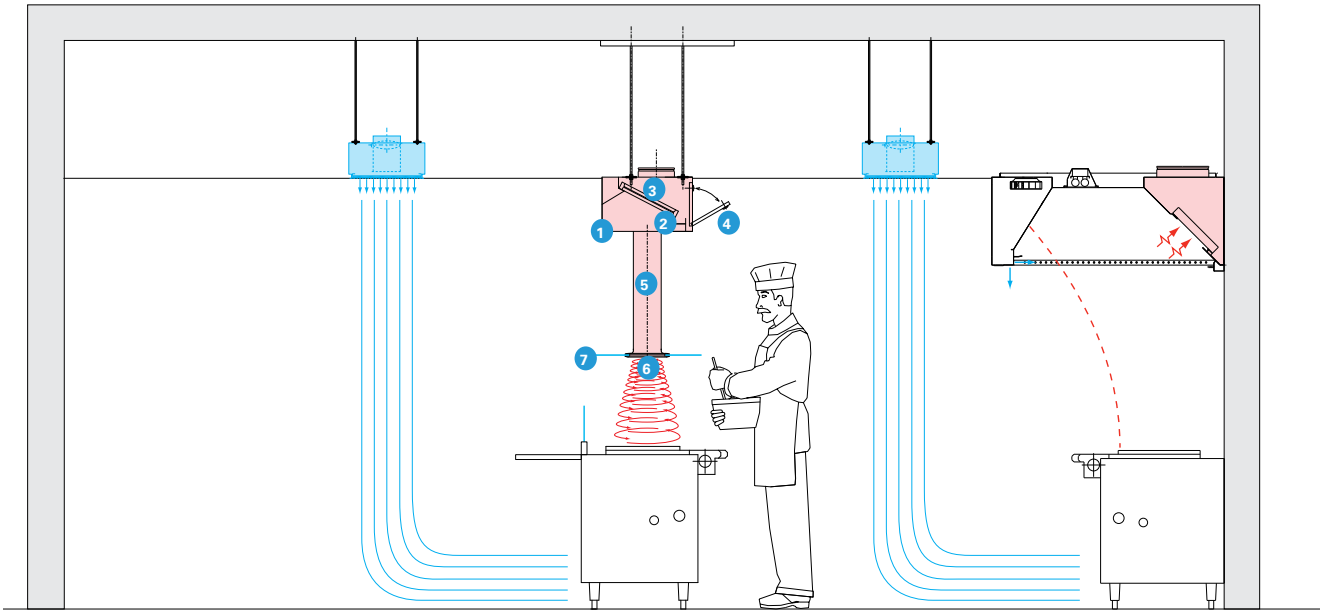
- Capture close to the cooking appliances without obstructing sight lines.
- one or more inlets generating a powerful aspiration cyclone.
- A glass plate that is suspended over the cooking surface increasing the capture efficiency of the cyclone(s).

The JES allows the eye to travel and take in the entire cooking theatre unlike traditional canopy hoods. Its design and the association of glass and stainless steel make the JES aesthetically pleasing and provides the cooking areas a unique style.

The glass plate doubles as a sneeze-guard for the guests and the staff.

The exhaust plenum has been designed to allow a quick and easy access to the filters for regular maintenance. The JES comes fully equipped with a fire suppression system along with;

- Highly efficient cyclonic effect for full capture
- KSA multi cyclone high efficiency grease extractors
- 50,000 hour LED lighting
- Aesthetically pleasing
- Maximum thermal and acoustic comfort
- Easy cleaning and maintenance
- Many customized opportunities
- Modular design 2', 4' and 6' sections



General Principles

Exhaust plenum constructed from AISI 304 stainless steel, fully welded, U.L. 710 listed .

T.A.B.™ (Testing and Balancing) port to verify exhaust air values.

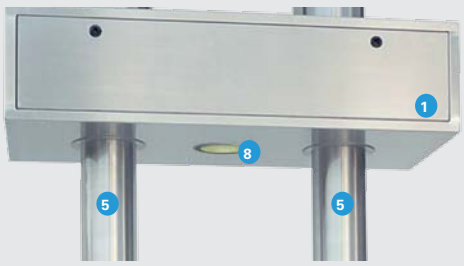
Grease and condensates are collected in a drip tray easily removable for cleaning.

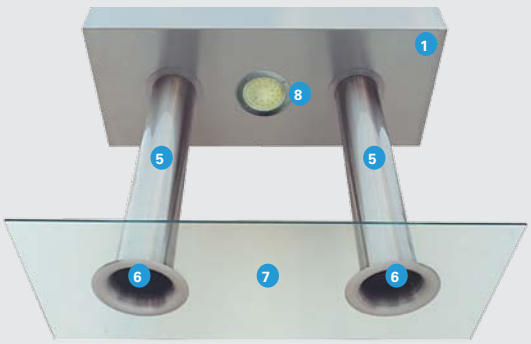
Access hatch to the KSA filters and the drip tray.

Stainless steel tube(s), equipped with an aerodynamic nozzle, shaped to generate a highly efficient cyclonic suction effect. The nozzle is also used to support the glass plate.

Glass Tempered Safety Glass (TSG) plate, 12mm or ½ inch thick.

1 - Exhaust plenum
2 - Filters condensate drip tray
3 - High efficiency KSA filters
4 - Access hatch to the filters
5 - Stainless steel tube
6 - Aspiration nozzle
7 - Glass plate
8 - LED Light





JES Efficiency

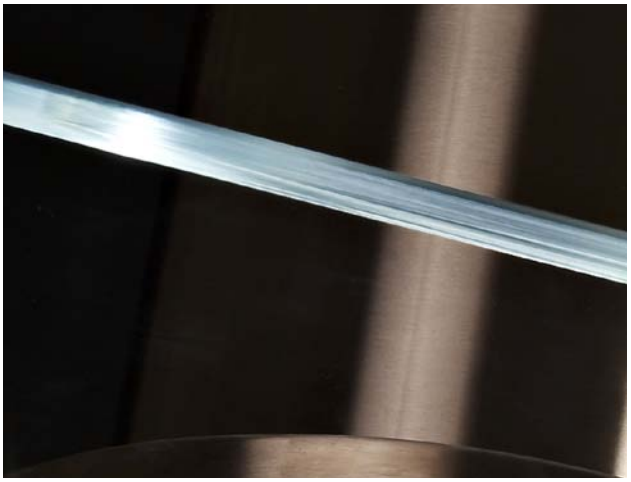
The smoke test demonstrates the synergy of the JES's 3 features:

- The proximity of the glass plate from the cooking source naturally increase its capture efficiency;
- The aerodynamic shaped nozzle creates an aspiration cyclone forcing the smoke plumes to go a circular direction.
- The glass plate intensifies the cyclone efficiency since it entrains air along its surface, in the direction of the nozzle.

The behavior of the JES is as impressive in real world as it is in the laboratory making it's use:

- A viable solution for display cooking.
- An alternative to traditional front cooking areas where the use of the canopies is not desired.

JES Glass Plate



The JES glass plate is made of TSG (Tempered Safety Glass) pre-stressed glass. In contrast to normal float glass, which produces sharp-edged glass pieces in the unlikely event of being broken, the TSG glass produces a fine mesh of small, mainly blunt-edged glass pieces. The danger of injury is then reduced considerably.

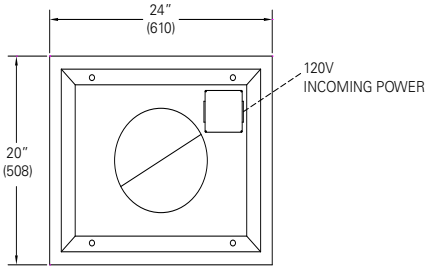
In addition to its qualities in the field of safety, the TSG glass also stands out in comparison with traditional float glass due to the following characteristics:

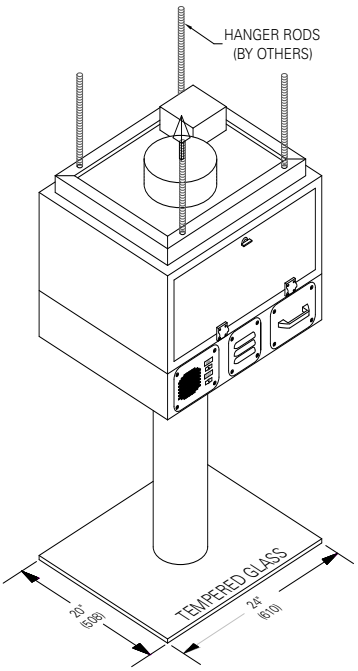
- Increased bending tensile strength and pressure resistance.
- Increased resistance to impact and shock.
- Increased resistance to variations in temperature.

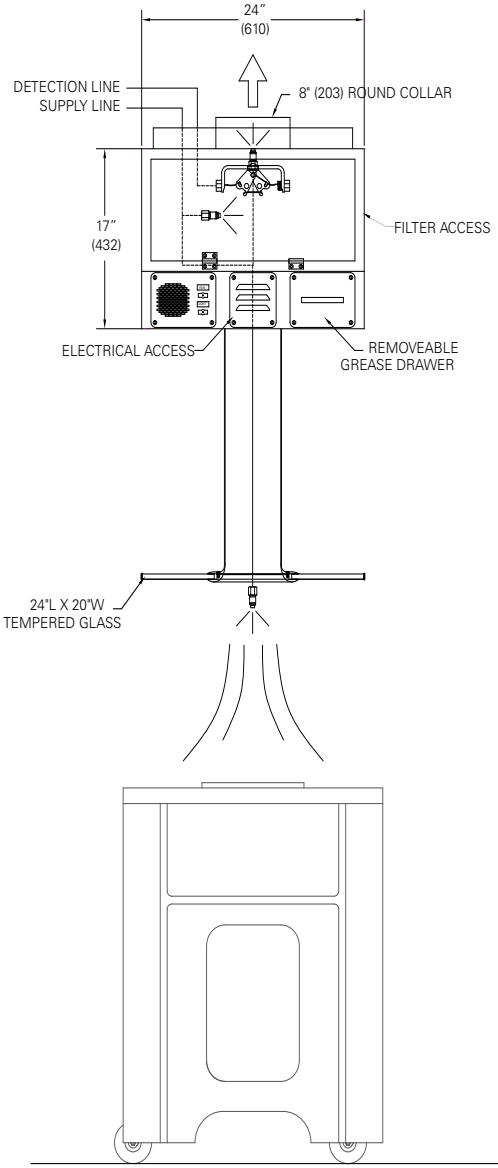
JES1 - Dimensions

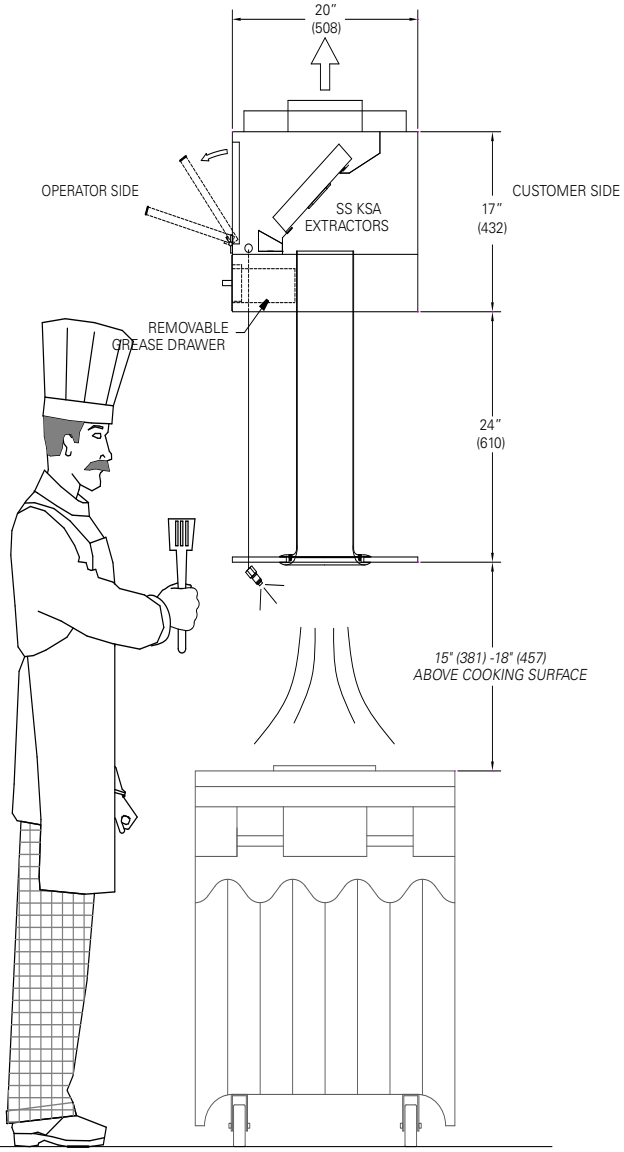
Approx Weight: 100 lbs

Inches
mm





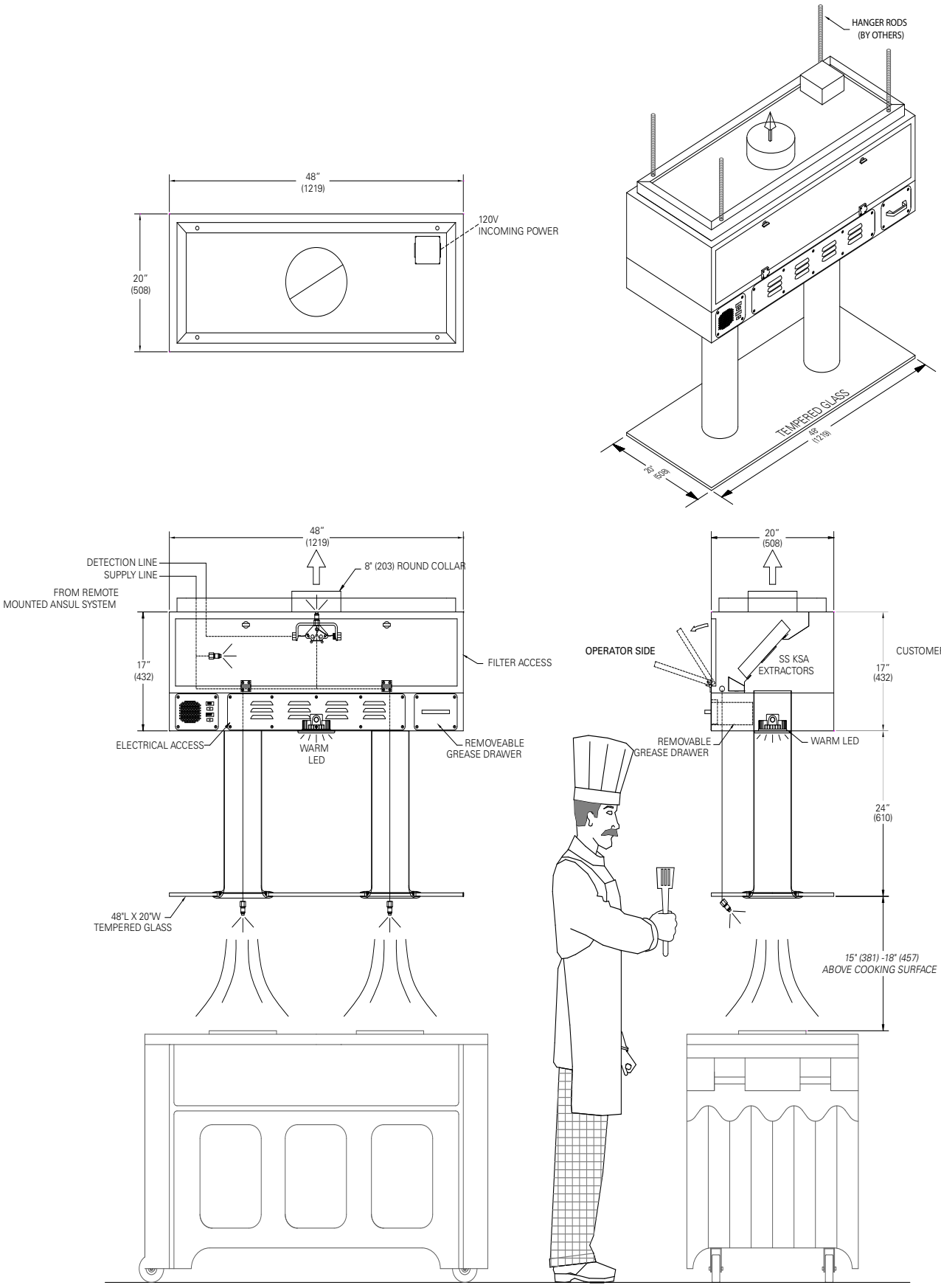




JES2 - Dimensions

Approx. Weight: 200 lbs

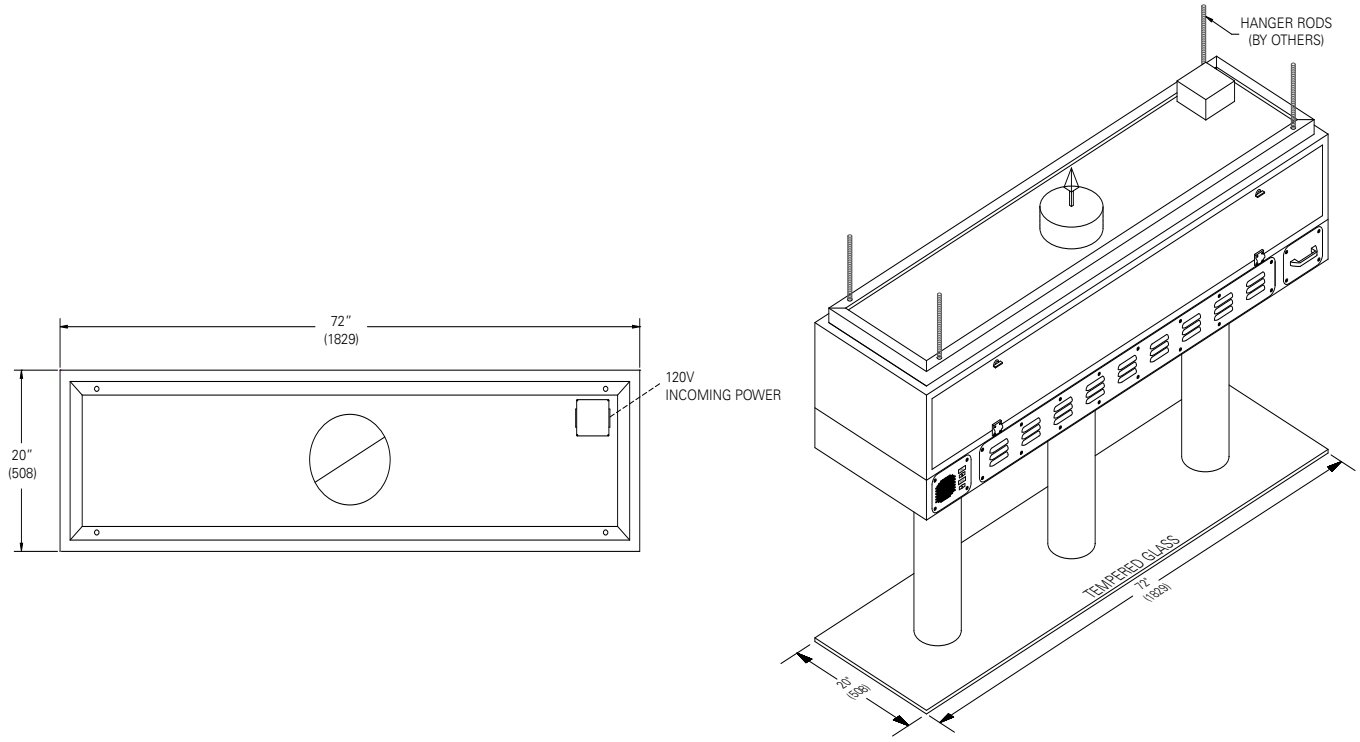
Inches
mm

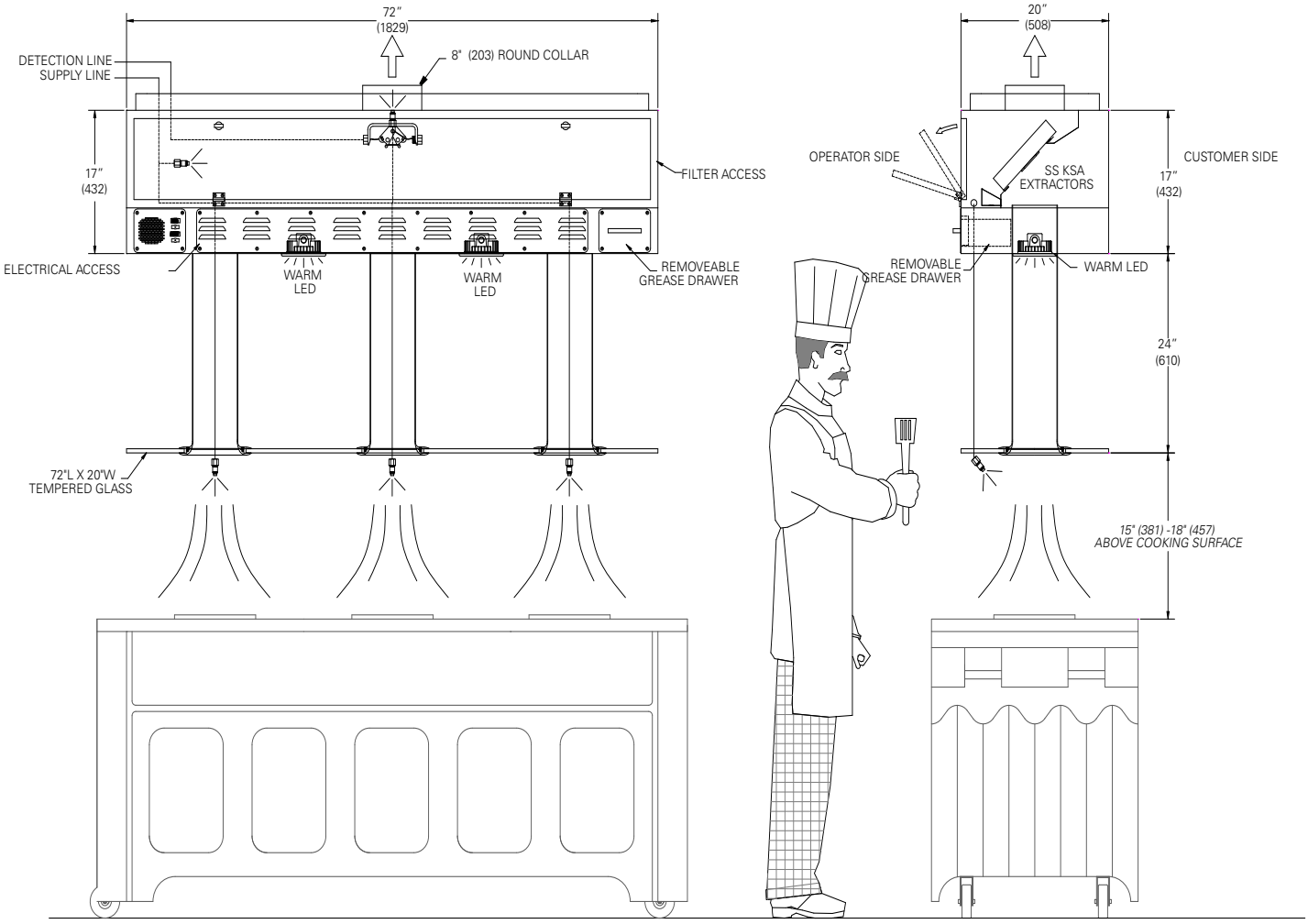


JES3 - Dimensions

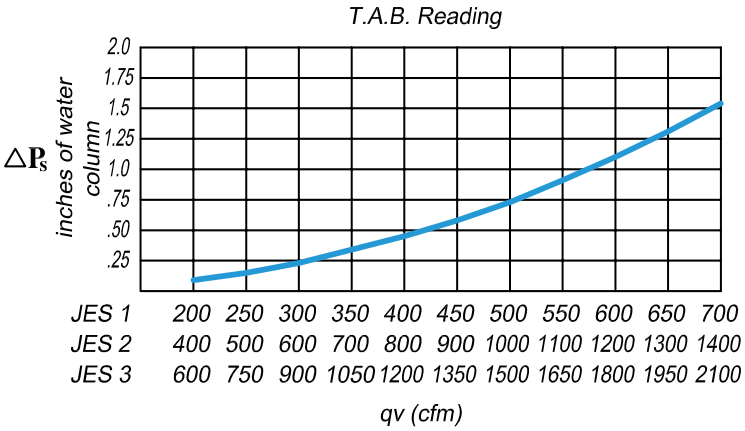
Approx. Weight: 300 lbs

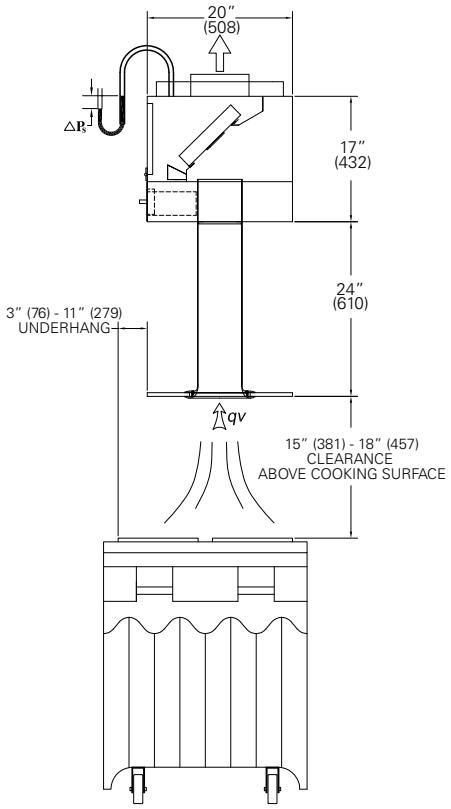
Inches
mm





JES TAB Readings





Recommended Air Flow Rates for JES1

400° Appliance

	Clearance 15″	Underhang	Clearance 16″-18″	Underhang
Exhaust w/o Sneeze Guard	586 cfm	3.5″	676 cfm	6.5″
Exhaust with Sneeze Guard	436 cfm	6.5″	585 cfm	6.5″

Induction Appliance

	Clearance 15″	Underhang	Clearance 16″-18″	Underhang
Exhaust w/o Sneeze Guard	370 cfm	3″	554 cfm	3″
Exhaust with Sneeze Guard	220 cfm	3″	390 cfm	11″

Recommended Air Flow Rates for JES2

400° Appliance

	Clearance 15″	Underhang	Clearance 16″-18″	Underhang
Exhaust w/o Sneeze Guard	1172 cfm	3.5″	1352 cfm	6.5″
Exhaust with Sneeze Guard	872 cfm	6.5″	1172 cfm	6.5″

Induction Appliance

	Clearance 15″	Underhang	Clearance 16″-18″	Underhang
Exhaust w/o Sneeze Guard	740 cfm	3″	1108 cfm	3″
Exhaust with Sneeze Guard	440 cfm	3″	780 cfm	11″

Recommended Air Flow Rates for JES3

400° Appliance

	Clearance 15″	Underhang	Clearance 16″-18″	Underhang
Exhaust w/o Sneeze Guard	1758 cfm	3.5″	2028 cfm	6.5″
Exhaust with Sneeze Guard	1308 cfm	6.5″	1758 cfm	6.5″

Induction Appliance

	Clearance 15″	Underhang	Clearance 16″-18″	Underhang
Exhaust w/o Sneeze Guard	1110 cfm	3″	1662 cfm	3″
Exhaust with Sneeze Guard	660 cfm	3″	1170 cfm	11″

Suggested specifications

General

The front cooking area shall be equipped with an Halton Jet Extraction System (JES), constructed from AISI 304 stainless steel and ESG glass. It shall be supplied complete with the glass plate, the aerodynamic nozzles, the exhaust plenum, stainless steel tubes and mounting plate. The number of nozzles and the size of the glass plate shall be as indicated in the drawings.

Glass Plate and Nozzles

The glass plate shall be clear, from the TSG pre-stressed type. It shall be thermally safe and resistant to high temperatures. In the unlikely event of being broken the resulting fragments will be mainly blunt-edged.

The glass plate shall be 12 mm thick, with polished edges, pierced from factory to be supported by the exhaust nozzles and the fire suppression system nozzles. For tailored JES, a poly carbonate plate may be delivered to check the dimensions on site before manufacturing the glass plate.

The nozzles shall have an aerodynamic shape to generate an exhaust cyclonic effect thanks to their association with the glass plate. The nozzles, the glass plate fixing flanges and the exhaust tubes shall be integrally constructed from AISI 304 brushed stainless steel. The tubes shall have an external diameter of 154 mm.

Exhaust Plenum and Exhaust Tubes

Outer casing is constructed from AISI 304 stainless steel in a brushed satin finish, or powder coated Aluminized Steel. The joints of the lower edge shall be fully welded to be liquid-tight, avoiding harmful dripping of condensation. All exposed welds are ground and polished to the metal's original finish.

The exhaust plenum shall be equipped with high efficient KSA grease filters, constructed from stainless steel. The grease removal efficiency is 95% for particles a diameter of 10 microns or larger, as tested by an independent testing laboratory.

The condensate shall be collected with a removable stainless steel grease cup installed below the filter plenum. The condensate collecting tray and the filters shall be easily accessible for periodic cleaning using the door which equips the exhaust plenum. The door shall be mounted on hinges and closed with metallic latch.

The exhaust plenum can be connected to the ductwork directly or by the mean of stainless steel extension tubes equipped of an horizontal connection (300..250x200 mm) and a damper.

Testing & Balancing Ports and Air Flow Balancing

The airflows are to be determined via the integral T.A.B.TM ports mounted on the JES exhaust plenum. The airflows are to be determined by the pressure vs. airflow curves or coefficients supplied by Halton.

Fire Suppression System

The JES shall be equipped from factory with a fire extinguishing system. It shall protect the kitchen and prevent the fire from spreading through the building using a completely automatic fire control system of the liquid chemical type. The fire detection system shall be capable of detecting fire under the glass plate and shall automatically discharge extinguishing liquid agent on cooking appliance areas to eliminate the possibility of reignition or re-flash, into the plenum chamber and on the exhaust duct collars.

The system shall include a spring-loaded release mechanism, agent tank nozzles with blow-off caps and stainless steel appliance drops, a fusible link detector, wall-mounted emergency pull stations, a wall-mounted Automan and cabinet. The system's installation shall be performed by an authorised representative of the system manufacturer and conform to UL 300 requirements and local codes.