JES

Vortex- High efficiency Jet Extraction system for front cooking areas

- High efficiency cyclonic effect for incomparable capture
- Energy savings thanks to low exhaust airflow levels
- Aesthetically pleasing
- Maximum thermal and acoustic comfort
- Optimal hygiene, air quality, and safety
- Easy cleaning and maintenance
- Turnkey projects: design, installation, and implementation by a team of experts
- Many customisation opportunities

The Jet Extraction System (JES) has been specifically designed for the front cooking areas or architectural cooking concepts integrating appliances with medium input power like grills, small charcoal grills, woks, heating plates etc.

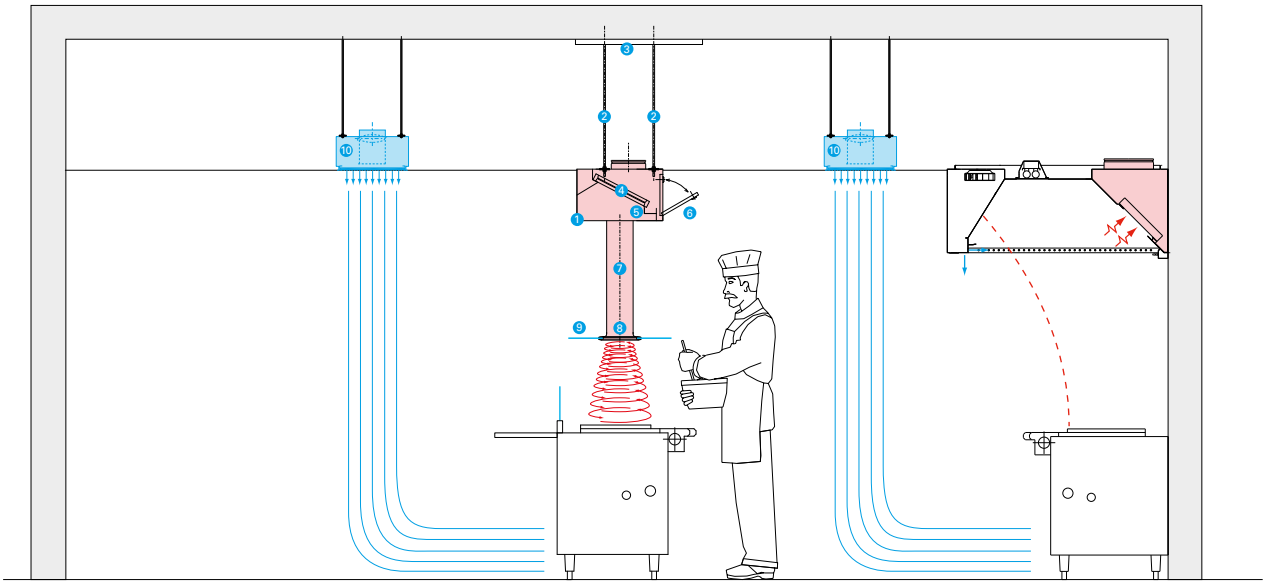
The JES is more than 95% efficient, with very low exhaust airflow levels, thanks to a synergistic combination of several features:
- a capture closest to the cooking appliances
- one or several nozzles generating a powerful aspiration cyclone
- a glass plate covering the whole cooking area thus helping to increase the capture efficiency of the cyclone(s).

The JES promotes the feeling of openness compared to traditional hoods. Its design and the combination of glass/stainless steel make the JES aesthetically pleasing and give the cooking areas a unique style, whatever the architectural project.

The glass plate plays the role of a sneeze-guard for the guests and the staff. It can be used also as a decorative feature or as a pass over shelf.

The exhaust plenum has been designed to allow a quick and easy access to the filters for regular maintenance. The JES can be equipped from the factory with a fire suppression system if the local regulations require it.

As an option, it can also be equipped with the Capture Ray™ UV technology to neutralize the grease particles and suppress their deposit in the exhaust plenum and the ductwork.



General principles

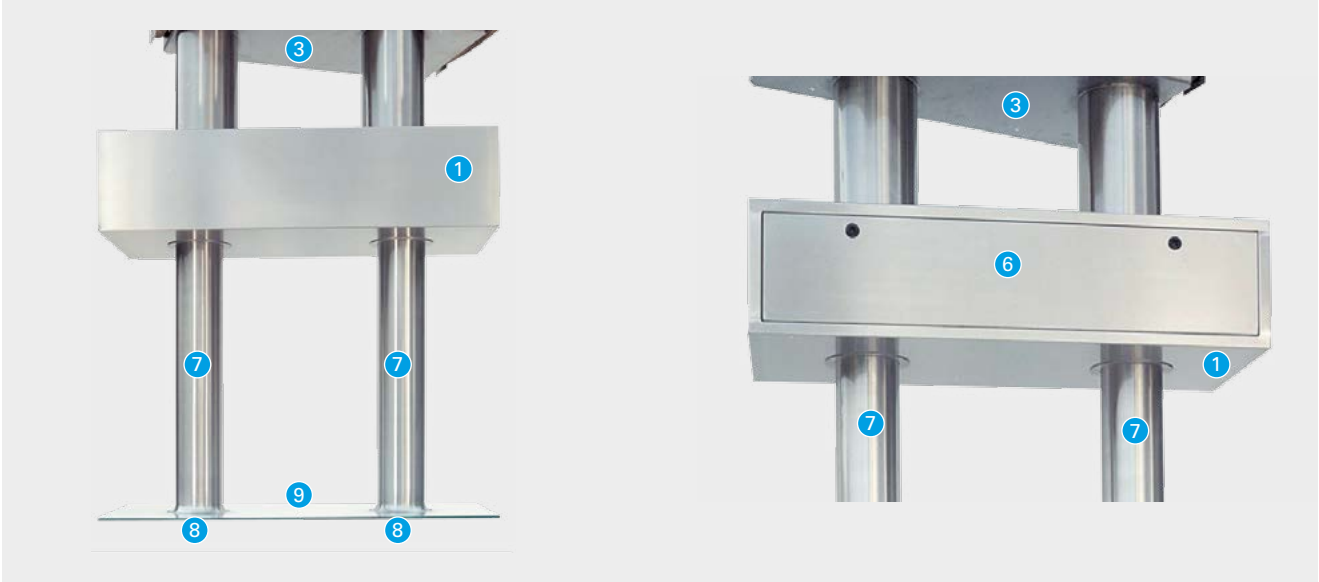
• Exhaust plenum constructed from AISI 304 stainless steel, 320 grain, with no visible screws and rivets. T.A.B.™ (Testing and Balancing) plug for pressure testing for direct control of air flow rates. Flanges 1.5 mm thick with a welded seam and body plenum 1 mm thick. Fixing with 4xM10 threaded rods.

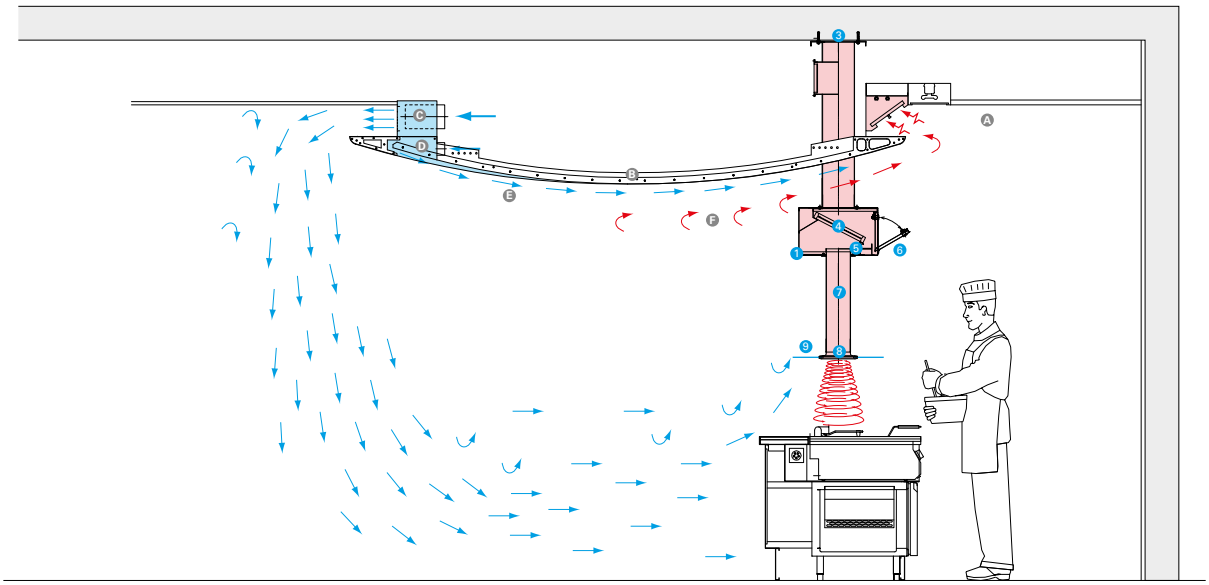
• High-efficiency AS filters, easy to dismantle for dishwasher cleaning. Construction of AISI 304 stainless steel, constant pressure drop. Grease and condensates are collected in a drip tray easily removable for cleaning.

• Access hatch to the AS filters and the drip tray. Mounted on hinges and equipped with black painted metallic key locks.

1- Exhaust plenum
2- Fixing support rods
3- Mounting plate
4- High efficiency AS filters
5- Filters condensate drip tray
6- Access hatch to the filters

• Stainless steel tube, equipped with an aerodynamic nozzle, shaped to generate a high efficiency cyclonic suction effect. The nozzle is also used to support the glass plate.





* Example of customised configuration, by courtesy of Boehringer Ingelheim Pharma (Germany).

• Tempered Safety Glass (TSG) plate, 10 mm thick.

7- Stainless steel tube
8- Aspiration nozzle
9- Glass plate

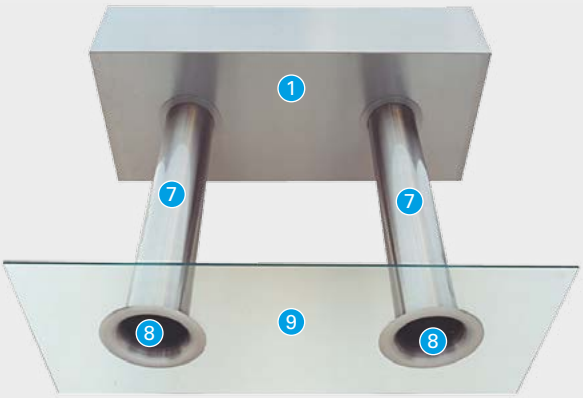
• Laminar-flow supply modules. Constructed from AISI 304 stainless steel, 320 grain, with no visible screws and rivets. Stainless steel or aluminium facing, equipped with a honeycomb structure.

10- Laminar flow supply module

Customised configurations

Thanks to its reduced dimensions and its modularity, the JES can be customised. It can be also integrated into a ventilated ceiling or in an HVAC "concept".

In this example above, the JES has been integrated into a bespoke ventilated ceiling comprising:
- traditional exhaust area (A)
- special plane wing shaped area (B) which includes a supply plenum (C) and Capture Jet™ like plenum (E). This plenum is fed with a small amount of air to create a horizontal air curtain (E) protecting the wing from the dirt and forcing the residual smoke to go back to the exhaust area (F).



JES efficiency

The opposite smoke test demonstrates the synergy of the JES's 3 features:
- The proximity of the glass plate from the smoke source naturally increases its capture efficiency;
- The aerodynamic shaped nozzle creates an aspiration cyclone forcing the smoke plumes to go in its direction;
- The glass plate amplifies the cyclone efficiency thanks to the creation of a beneficial air stream along its surface, in the direction of the nozzle (as the threads fixed on the glass surface show).

The performance of the JES is as impressive in real conditions as during the laboratory tests, making its use:
- the only solution in certain particular show cooking configurations;
- the correct solution for all the traditional front cooking areas where the use of the hoods is not desired in order to create a feeling of openness.

JES glass plate

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

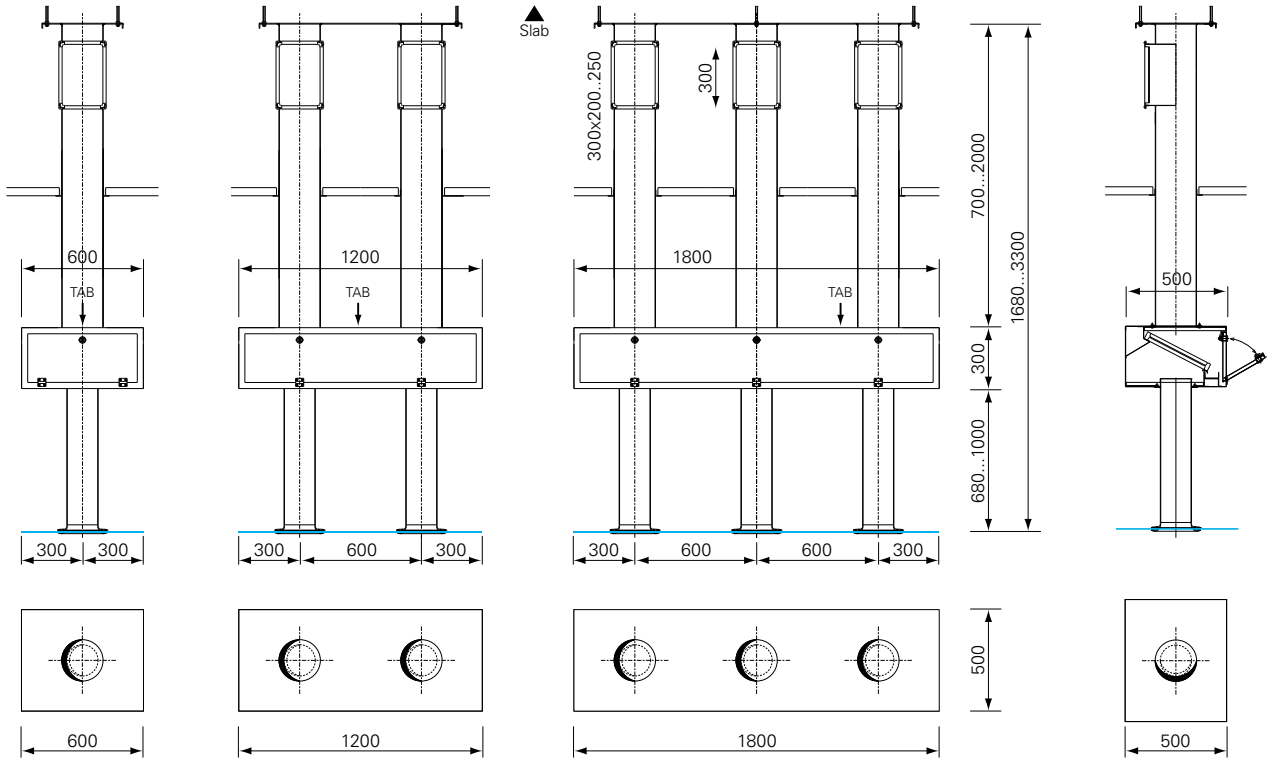
Capture Ray™ technology

The Jet Extraction System can be - as an option - equipped with the Capture Ray™ technology. It limits the grease deposits in the exhaust plenum and in the ductwork, and reduces the emission of odours at discharge. The ductwork cleaning costs are then reduced to a minimum level due to the absence of grease deposits. The heat recovery feasibility, efficiency and payback time are also improved as a result of lower maintenance requirements.

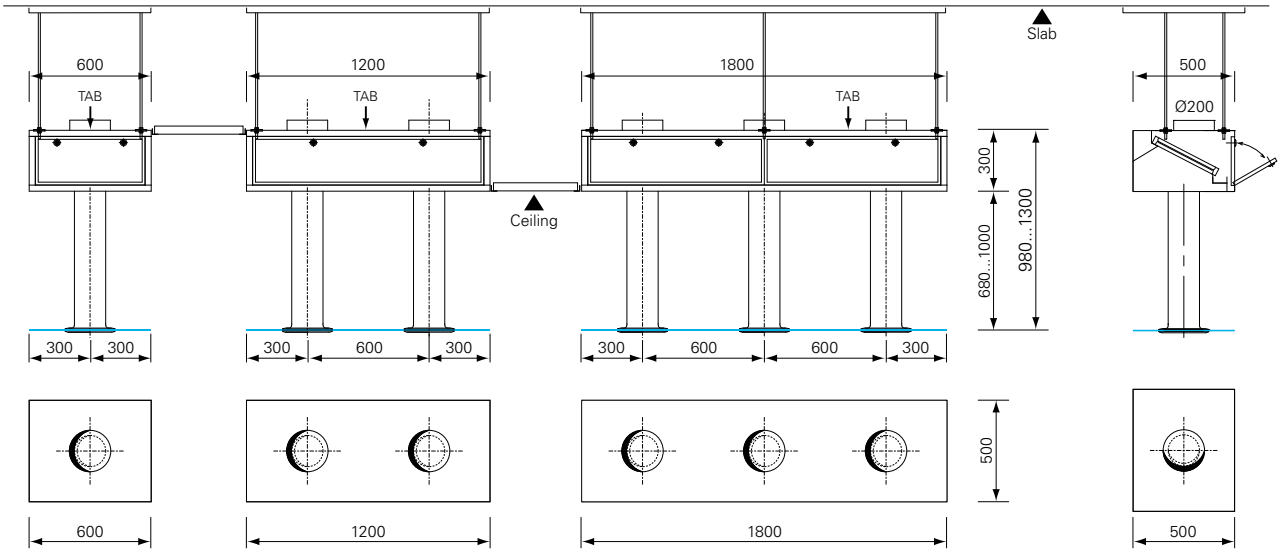
Fire suppression systems

Given the design and construction of the JES, the fire suppression system must be factory installed.
Customised front cooking solutions lead, normally, to specific dimensions to suit specific installation constraints. The accessibility to the exhaust plenum after installation can be also significantly reduced. Finally, the JES glass plate can be drilled only with specific tools. For all these reasons, a JES fire suppression system is therefore entirely designed and installed by our specialists.

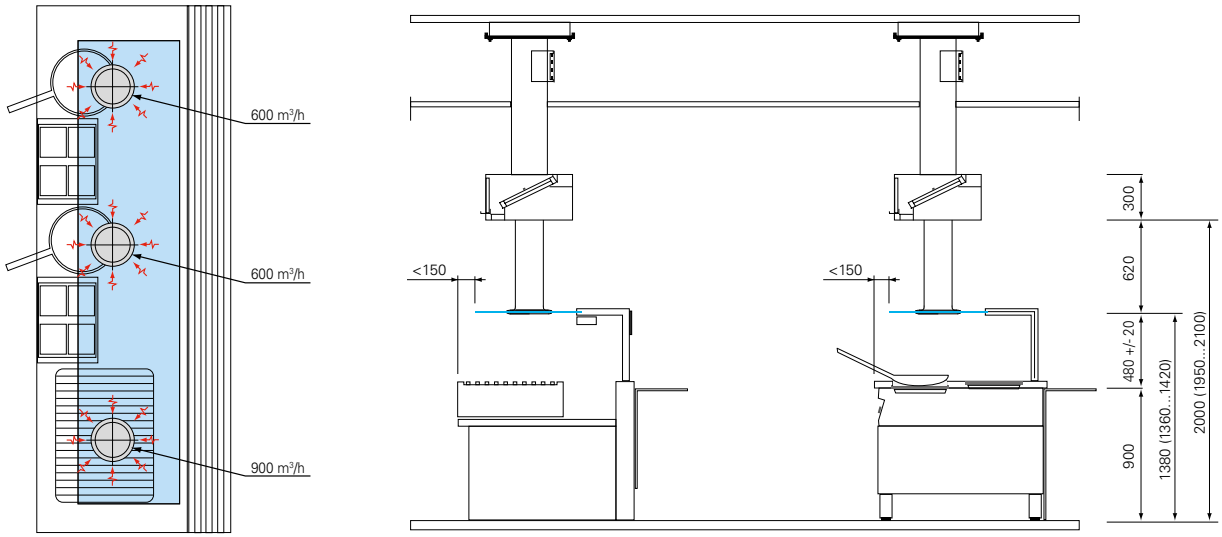
Dimensions of the JES with connections on the tube extensions



Dimensions of the JES with connections on the exhaust plenums



Example of typical JES installation



Quick selection data

Code		1 nozzle	2 nozzles	3 nozzles
Recommended air flow rates	[m³/h]	600 - 900	1200 - 1800	1800 - 2700
	[l/s]	167 - 250	333 - 500	500 - 750
Maximum pressure loss	[Pa]	305	305	305
Exhaust plenum dimensions (LxWxH)	[mm]	600x500x300	1200x500x300	1800x500x300
Glass plate dimensions (LxW)	[mm]	600x500	1200x500	1800x500
Number and filter type		1 x AS	2 x AS	3 x AS
Filter dimension (LxWxH)	[mm]	500x350x39	500x350x39	500x350x39
Total height	[mm]	1000...2000	1000...2000	1000...2000
Weight	[kg]	80	160	240

Notes

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