Jetstream

Car Park Ventilation

Data Sheet

Colt Jetstream is an impulse jet fan intended to control air movement and direct polluted air and smoke towards the extract positions in a car park.

CAR PARK VENTILATION SYSTEMS

Car park ventilation systems are required to achieve two objectives.

Firstly, when the car park is in general use, it is important that the exhaust fumes produced by vehicles are effectively removed and that there are no stagnant pockets of harmful gases.

Secondly, in the event of a fire, assistance needs to be given to the Fire Service to clear smoke from the car park during and after the fire.

In addition, car park ventilation systems may be designed to provide clear, smoke free access for fire fighters to tackle the fire, or alternatively to protect means of escape from the car park.

SCHEME DESIGN

Each car park is different and Colt will provide a scheme designed to suit the exact requirements of the project.

Colt car park ventilation systems include one or more of the following elements:

- Natural inlet through the entrance/exit ramps/fixed ventilation louvres.
- An extract system with dual fans discharging to atmosphere.
- Air distribution and mixing within the car park by a network of Jetstream Impulse fans and/or Cyclone Induction fans.

As part of a designed scheme involving detection, controls and extract units, the Jetstream fan adds momentum to the air to drive it towards an extract point.

In day to day operation the control system monitors the carbon monoxide levels within the car park and adjusts the ventilation rate accordingly. Should a fire signal be received, the ventilation switches to the fire affected floor and the flow rates are increased.

FEATURES AND BENEFITS OF COLT JETSTREAM

- CE Marked.
- Independently Tested — Certified to EN 12101-3 class F300.
- Durable — Hot dipped galvanized casing with the option of polyester powder coating to any RAL colour.
- Optional — Bi—direction impeller for reversible flow.
- Inlet Guard (Uni).
- Outlet Diffuser — One for the uni and two for the bi direction unit.
- Low Maintenance — No distribution ductwork to clean.

Architectural Solutions
Climate Control
Smoke Control
Service and Maintenance

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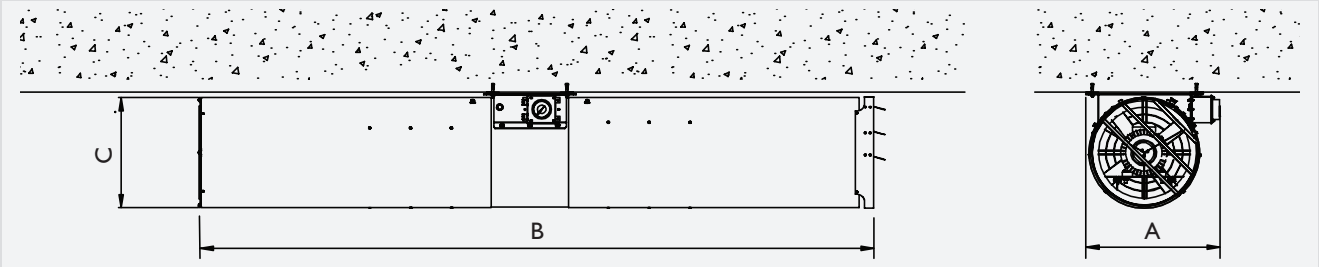
UNIT DIMENSIONS



	Jetstream 315	Jetstream 350	Jetstream 415
Overall width A(mm)	387.3	428	509
Overall length B(mm)	1980.5	2189	2603
Overall height C(mm)	330.2	365	433.5

TECHNICAL SPECIFICATION

Size	Direction	Motor Power kW	Nominal Current A	Start Current A	Air Flow m^3/s	Speed Low/high	Discharge Velocity m/s	Thrust N	LpA @ 3m free field dBA
315	Uni	0.2	0.6	2.7	0.41	low	6.2	3	48
315	Uni	0.8	1.91	11.46	0.8	high	12.1	12	64
350	Bi	0.25	0.75	2.9	0.53	low	9.9	7	53
350	Bi	1.1	2.41	14.5	1.00	high	19.1	24	72
350	Uni	0.25	0.75	2.9	0.56	low	10.2	7	50
350	Uni	1.1	2.41	14.5	1.11	high	20.1	27	66
415	Bi	0.37	1.25	5.7	0.80	low	10.1	10	59
415	Bi	1.5	3.54	23.1	1.63	high	20.6	42	78
415	Uni	0.37	1.25	5.7	0.89	low	11.2	13	52
415	Uni	1.5	3.54	23.1	1.81	high	22.6	50	68

CONTROLS AND SENSORS

The design of the controls and sensors is an integral part of the car park ventilation system. The arrangement of sensors is determined at the design stage, along with the controls cause and effect, which determines the way in which the equipment responds to any given conditions.

Day to day condition

The simplest (but rarely used) option is to run the system at a constant speed, providing a ventilation rate of 6 ACH throughout the car park. To reduce energy consumption a carbon monoxide (CO) detection system is used to allow the system to run at a reduced ventilation rate in periods when vehicle movements are low.

Using a single output detector, two stage control can be provided, typically switching at 15-20ppm of CO. Using variable output detectors, the system can provide additional stages or modulate to match the ventilation rate to the car park usage.

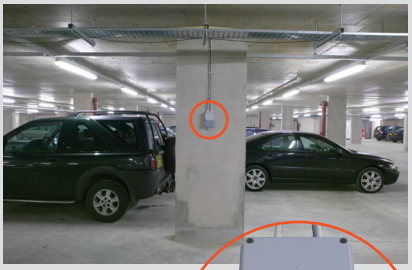
Fire condition

For a smoke clearance system, detection is required to indicate which level of the car park contains the fire, if the car park has more than one level. Upon detection all fans on that level operate at high speed, all other fans are switched off and the extract fans are switched to full speed, extracting only from the fire level.

For a smoke control system, addressable detection is required to pinpoint the fire location to allow correct selection of fan operation to maintain the required clear areas.

Colt can provide carbon monoxide detectors, heat/smoke sensors and fire alarm inputs along with all their necessary controls and battery back up facilities, linked into an addressable fire detection system.

Control panel manufactured by Colt undergoing final inspection



The Postbox Birmingham

CO Detector