

This certificate is valid for Building Regulations & associated technical guidance in force on the date of registration and for the regulations in the countries indicated

## Colt Shaft: Means of Escape Fire Fighting Systems

### Description of Product

Colt Shaft: Mechanical Ventilation Means of Escape Fire Fighting Systems comprises of Non-standard Colt Shaft and Standard Colt Shaft mechanical ventilation systems for means of escape; and Enhanced Colt Shaft, Standard Colt Shaft and Upgraded Colt Shaft for firefighting.



### Key Factors Assessed

- Safety in case of Fire

### Validity

This certificate was first issued on 15<sup>th</sup> November 2010 and is valid until 30<sup>th</sup> November 2021

Issue Dated 2<sup>nd</sup> November 2015

## Scope of Registration

This Registered Detail relates to Colt Shaft: Mechanical Ventilation Means of Escape Fire Fighting Systems, comprising of Non-standard Colt Shaft and Standard Colt Shaft mechanical ventilation systems for means of escape; and Enhanced Colt Shaft, Standard Colt Shaft and Upgraded Colt Shaft for firefighting. Colt Shaft means of escape systems other than the standard shaft approach will be justified by project specific CFD analysis. All systems are subject to performance testing and commissioning at project completion.

## Conditions of Certificate

Colt Shaft means of escape systems other than the standard shaft approach will be justified by project specific CFD analysis. All systems are subject to performance testing and commissioning at project completion.

LABC consider that, Colt Shaft: Mechanical Ventilation Means of Escape Fire Fighting Systems, will meet the functional requirements of the Building Regulations (listed below) if the criteria detailed in this certificate are met;



### The Building Regulations 2010 (as amended) England & Wales

AD B Fire Safety

Note: The products can contribute to meeting this Requirement subject to limitations detailed below in Conditions section.



### The Building Regulations 2010 (as amended) England

None presently



### The Building Regulations 2010 (as amended) Wales

None presently



### The Building (Scotland) Regulations 2004 (as amended)

If you would like to discuss a specific use of the product in Scotland it will require an additional assessment under the Scottish Building Regulations and accordingly you should contact the LABSS STAS Administrator at [www.labss.org](http://www.labss.org)

## Non-Regulatory Information



### LABC Warranty

This product confirms to the Functional Requirements of the LABC Warranty Technical Manual.

## Supporting Documentation

Colt Document CES- 0408 –Equipment Description and Specification,

Colt Document – Colt Shaft Full Scale live smoke test

Colt Document PUL6438S/U, PVL6436AS/U, PVL6438NS/U, Programmable, Terminal and Unitary/VAV controllers,

Colt sales specification September 2008

Mechanical ventilation of fire fighting shafts performance and design December 2004

CFD analysis of smoke ventilation in a fire fighting lobby with a 12 minutes un-sprinkled fire, September 2007

Colt manufactures details

Smoke control report – Angel Meadows development Manchester August 2006

CFD Analysis of Smoke ventilation in windows. Wembley wo4 July 2007

Technical Submission PDS:023 Issue A, Colt International Licensing Ltd 2011

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## Colt Cyclone & Colt Jetstream

### Description of Product

Colt Cyclone & Colt Jetstream are used for removal of car exhaust gases and other pollutants in normal use and for the extraction of smoke and products of combustion in the event of a fire.

This is an assessment of Colt mechanical car park ventilation systems. Two types of ventilation unit are considered:

Colt Cyclone; is a low profile high velocity induction jet fan

Colt Jetstream; is an impulse unit with an axial fan and inlet / discharge attenuators.



### Key Factors Assessed

- Safety in case of Fire
- Health, Hygiene and Environmental
- Durability serviceability and identification

### Validity

This certificate was first issued on 15<sup>th</sup> November 2010 and is valid until 30<sup>th</sup> November 2021

Issue Dated 2<sup>nd</sup> November 2015

## Scope of Registration

Car parks and similar spaces requiring natural or mechanical ventilation for the removal of vehicle exhaust fumes and smoke arising from a fire.

The Colt Cyclone is an induction fan designed for car park ventilation and the ventilation of service areas. The system will reduce levels of polluted air and will assist with the extraction of smoke in the event of a fire. The fan unit is tested and certified to EN 12101-3-2002.

The Colt Jetstream is a low profile, high velocity induction fan intended to control air movement in car parks. Jetstream directs polluted air and smoke towards the extract positions in a car park or service area. It is tested and certified to EN 1201-3 Class F300.

Such fans use tunnel ventilation technology to eliminate the need for costly and bulky ductwork. Compared to ductwork systems, this may save car-parking spaces, reduce running costs and noise, and make the car park a lighter, less cluttered environment.

In general, for day to day operation the control system monitors the levels of pollutants within the car park and once a set point has been reached the system increases the ventilation rates. In a fire situation, once a signal from the fire alarm has been received, ventilation rates are increased.

## Conditions of Certificate

The system should only be approved when based on an engineering design from the manufacturer Colt International Ltd.

Each project will require a specific design to suit the exact requirements of the building. Colt Car Park Ventilation Systems include one or more of the following elements:

Natural inlet / outlet air vents are designed usually through the entrance/exit ramps/fixed ventilation louvres

Extract by a ducted system with dual fans discharging to atmosphere

Air distribution and mixing within the car park by a network of Cyclone Induction Fans or Jetstream Impulse Fans

The system must be fully commissioned at occupation / completion to demonstrate compliance with the requirements.

The individual fan units must be adequately fixed to the supporting structure in accordance with the manufacturers recommendations. The structure to which the unit is fixed must be sufficiently robust to carry the load of the individual fan unit. This should be verified during installation or commissioning.

The fan units should not be positioned where they would impede access or escape routes. Escape routes must have a 2m clear headroom.

LABC consider that, Colt Cyclone & Colt Jetstream, will meet the functional requirements of the Building Regulations (listed below) if the criteria detailed in this certificate are met;



## The Building Regulations 2010 (as amended) England & Wales

Regulation 7 Materials and workmanship

Note: The products are acceptable.

AD B Fire Safety

Note: The products can contribute to meeting this Requirement subject to limitations detailed below in Conditions section.

AD F Ventilation

Note: The products can contribute to meeting this Requirement subject to limitations detailed below in Conditions section.



## The Building Regulations 2010 (as amended) England

None presently



## The Building Regulations 2010 (as amended) Wales

None presently



## The Building (Scotland) Regulations 2004 (as amended)

If you would like to discuss a specific use of the product in Scotland it will require an additional assessment under the Scottish Building Regulations and accordingly you should contact the LABSS STAS Administrator at [www.labss.org](http://www.labss.org)



## Non-Regulatory Information



### LABC Warranty

This product confirms to the Functional Requirements of the LABC Warranty Technical Manual.

## Supporting Documentation

BSEN 12101-03-2002 EC Certificate of Conformity number 0086-CPD-590832 'Powered smoke and heat exhaust ventilation for use in construction work'

Colt Cyclone - manufacturers datasheet / Information

Colt Jetstream - manufacturers datasheet / Information

CFD prediction of ventilation using Colt Cyclone, Colt Jetstream and main extract fans

Report on St Pancreas Station Car park London, February 2007

Report on Avon Fire HQ car park Demonstration, 15th February 2007

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