

# Rolls Royce Jet Engines Factory



# Condensation Free Air Distribution System

The Rolls Royce jet engines factory in Singapore was opened in 2010 due to increasing demands in Asia. The main concern for this factory was to make sure that condensation would not trouble manufacturing of the well known high technological Rolls Royce jet engines. Euro Air was proud to deliver a special solution for this very special factory.

## Facts

Building owner: Rolls Royce

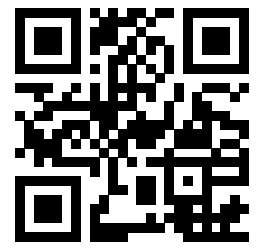
M&E: Hitachi Plant

Distributor: LGM

## Air distribution system through fabric and droppers with directional nozzles

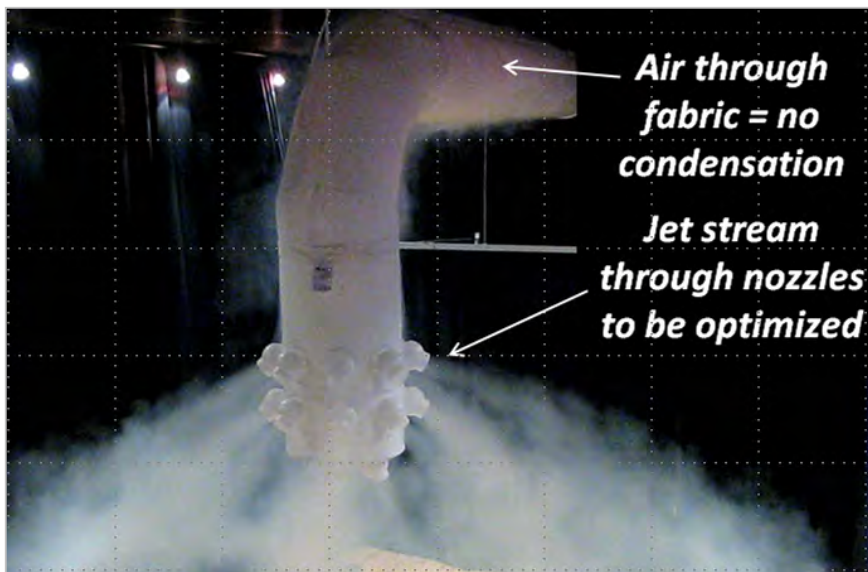
To make sure that the factory would be condensation free, Euro Air fabric air distribution system was made of custom grey color DFC40 fabric combined with droppers.

What is so special about the droppers is that they are equipped with KE Fibertec vario Ø48 mm nozzles which are directional and solve clearance issues with the yellow horizontal cranes.



Scan the code or click the link to see a film from the factory

<http://bit.ly/12DHATI>



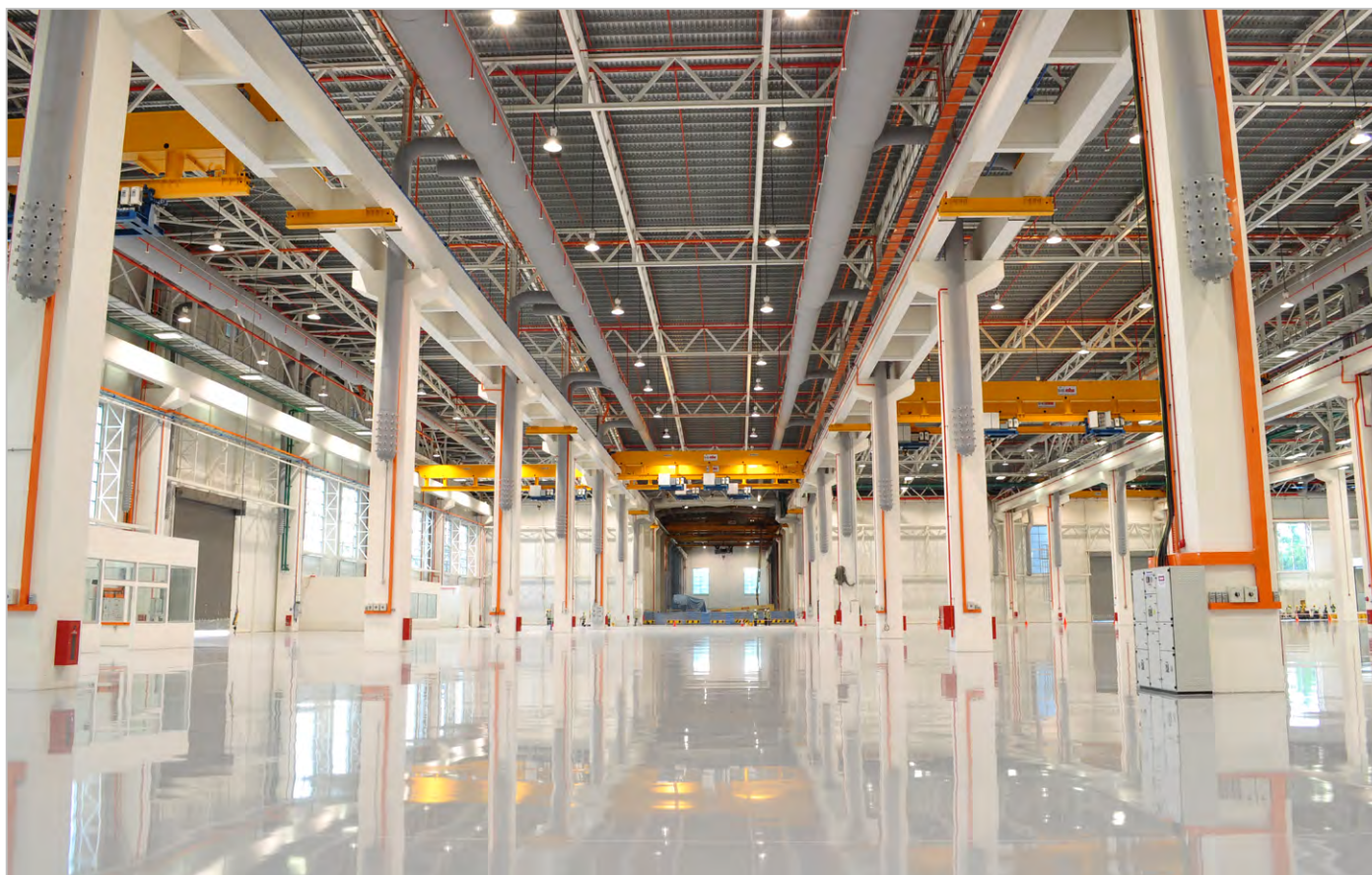


The fabric ducts were mounted on aluminum flexrail and suspended with threaded beams.

The installation consists of 8 fabric ducts starting with a diameter of Ø1800 mm going down to Ø630 after 100 meters length. About 10.000 m<sup>2</sup> of fabric was used.

### Facts

Production year	2010
Euro Air system:	Hybrid system DFC40 & nozzles
Custom color:	Silver Grey RAL7001
Installation height:	16 meters
Air volume/duct:	72.000 m <sup>3</sup> /hr.
Static pressure:	139 Pa
Sound level:	40 dB(A)



## BCA Green Mark for Buildings Award

The Rolls Royce factory project was awarded a Platinum Award from BCA Green Mark Building.

**BCA GREEN MARK FOR BUILDINGS AWARD** ★ Platinum

**Rolls-Royce Project Red Dot (Hub/SATU)**  
(New Non-Residential Buildings) (Special)

<b>Client / Developer</b> Rolls-Royce Singapore Pte Ltd	<b>Quantity Surveyor</b> Turner & Townsend Pte Limited
<b>Project Manager</b> Turner & Townsend Pte Limited	<b>Main Contractor</b> Sato Kogyo (S) Pte Ltd
<b>Architect</b> Architect Team 3 Pte Ltd	<b>Landscape Consultant</b> Earthscape Concepts Pte Ltd
<b>M&amp;E Engineer</b> Megatrends Consulting Engineers	<b>M&amp;E Contractor</b> Hitachi Plant Technologies, Ltd
<b>Structural Engineer</b> Longrove Associates Pte Ltd	<b>ESD Consultant</b> G-Energy Global Pte Ltd

**Key Features**

- Estimated energy savings: 7,955,685 kWh/yr; Estimated water savings: 29,617 m<sup>3</sup>/yr; ETTV: 19.24 W/m<sup>2</sup>.
- Low ETTV.
- Efficient chiller plant system with performance of 0.590kW/ton.
- Permanent measurement and verification instrumentation for the monitoring of chilled-water plant efficiency and heat balancing.
- Heat pump system.
- **Fabric duct air distribution system.**
- Extensive use of sustainable construction materials and products.
- Collection of food waste by third party for electricity generation.

### “Nick Ang, LGM from The LGM Group Pte Ltd Singapore

We are so proud of this installation. We had a very good collaboration with M&E Hitachi especially with project Manager Ito Jun. We were able to coordinate design and technical insights with Euro Air and air distribution is working as fine as a Rolls Royce jet engine...”

