



Active Chilled Beam

Perimeter System

Infuser cold air solution

Active Chilled Beams

Project Name:	Energex - 33 Breakfast Creek Road, Brisbane, QLD	
Date Completed:	December 2010	Building Size: 28,600 m ² NLA
Installed Sensible Capacity:	2,240 kW	
Engineered By:	Cundall Services	Installed By: Siganto & Stacey
System Used:	CM10 'In-Ceiling' Active Chilled Beams	Number of Units: 2,041
<u>Design Criteria:</u>		
Room Temperature:	24°C / 50%RH	Chilled Water Temperature: 13°C
Primary Air Temperature:	12°C	Total Primary Air Quantity: 61,230 L/s

Energy efficiency,

sustainability

+ Flexibility

Awarded Queensland's first GBCA 6 STAR Green Star project

Energex headquarters is a 6 story high-profile large floorplate office building completed in 2010 with approximately 28,600m² net lettable area to house office and staff of Energex, one of the fastest growing energy companies in Australia.

Modern building required significant perimeter cooling capacity together with low noise levels and best practice air movement to achieve the goal of GBCA 6 Star Green Star Office Design V2 and 4.5 Star ABGR energy ratings.

Active Chilled Beam perimeter solution must deliver best practice air performance, reduced noise and increased cooling capacity using the smallest possible air ductwork and secondary chilled water infrastructure and risers.

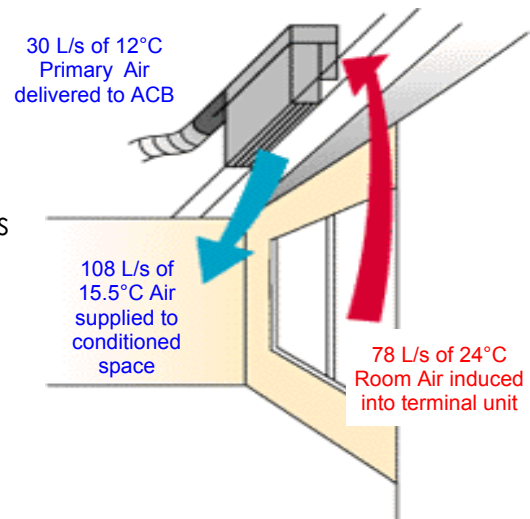


The Challenges

- Required perimeter cooling of 2,240kW with smallest possible infrastructure
- Deliver fresh air ventilation strategy at minimum 150% above design standards
- Must deliver best practice air movement to meet 6 Star Green Star requirements
- Low clearance (spatial constraints) around perimeter edge beams
- Active Chilled Beam design with condensate removal trays to accommodate Queensland humidity and condensation from low temperature secondary water
- Zone control flexibility needed for integrated fitout options

The Solution

- Specify new low-profile perimeter Active Chilled Beam to meet perimeter cooling capacity requirements
- Design ceiling mounted units of varying lengths to suit individual capacity delivery requirements by location
- Design for primary air pressure of 150Pa
- Install 2,041 High Induction CM10 'In-Ceiling' Active Chilled Beams throughout the 6 typical office floors
- Deliver uniform 12°C primary air temperature and 13°C secondary water temperature to all perimeter Active Chilled Beams



The Benefits

- ✓ Delivered a compact ceiling mounted Active Chilled Beam to fit within tight spatial constraints around perimeter edge and band beams
- ✓ Achieved target perimeter cooling capacity using only 61,230 L/s of primary air
- ✓ Delivered average primary air distribution rate of ≥ 2.3 L/s/m²
- ✓ Delivered higher total air distribution rate for perimeter zones of 8-10 L/s/m²
- ✓ Secondary sensible cooling capacity of **1,300kW** (58% of total sensible cooling) and higher air distribution rates delivered for **NO ADDITIONAL FAN ENERGY** through the induction process of Active Chilled Beams
- ✓ Australian designed, manufactured and supported product for a prestige Australian project