

Chilled Beam Technology for Excellent Indoor Climate in Energy Efficient Manner

Teacher: Maija Virta



Maija Virta has contributed to the development of chilled beam technology and applications design since 1990 both in Halton and in international forums. She was a main author of REHVA's Chilled Beam Application Guidebook No. 5, which was published in 2004.

She is also an author of many technical articles in various international HVAC-magazines.

Maija Virta is a vice-president of the Federation of European Heating, Ventilation and Air-conditioning Associations (REHVA) since April 2008.

Contents of the course:

Chilled beam technology is used for sensible cooling, heating, and ventilation in spaces where good indoor climate and individual space control are appreciated. A chilled beam system provides comfortable thermal conditions with quiet and energy-efficient operation. The system operation is simple and trouble-free with minimum maintenance requirements. The beam system design complements the flexible use of available space, whilst the high temperature cooling and low temperature heating maximise the opportunity for free cooling and heating. Chilled beam systems are dedicated outdoor air systems to be applied primarily in spaces where internal humidity loads are moderate.

This three hour short course gives information of a chilled beam technology and products. It is intended to HVAC-Engineers, Facility Owners and Architects. Course level is intermediate; a basic knowledge of air-water room systems (like fan coils) and air diffusion is required.

Individuals who complete this course will be able to understand general principles of chilled beam technology and products and use a chilled beam technology taking into account the specific climate conditions and building requirements. They know how to design a chilled beam system in order to achieve excellent indoor climate conditions and they understand the benefits of chilled beam system in terms of indoor climate quality, energy efficiency and life cycle costs. During the session also the system limitations in regard e.g. the building type and quality as well as the outdoor climate are discussed.

The content of course:

- Chilled Beam System
- Benefits of Chilled Beam Technology
- Design Methodology
- Chilled Beam Selection
- Installation and Commissioning
- Life Cycle Management of System
- System Design and Product Selection Example