

## Efficient air distribution in Sweden's largest research centre

Ring structure in main building



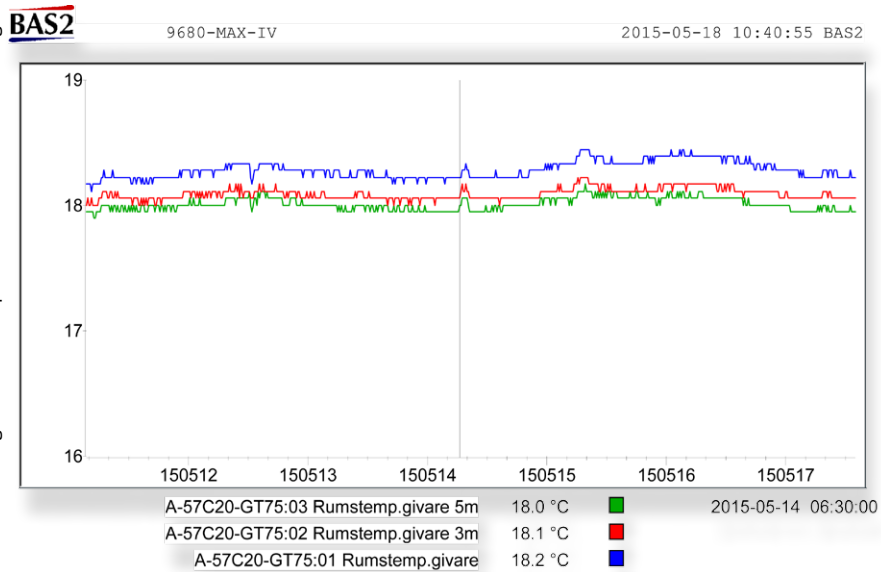
### Healthy indoor climate and silent ventilation

KE Fibertec's Swedish partner, ACP Luftbehandlingsprodukter, has supplied a textile based ventilation solution for the new MAX IV laboratory in Lund. Covering an area of 40,000 m<sup>2</sup>, this is Sweden's largest research centre. The total air quantity is approx. 100 m<sup>3</sup>/s. The outer ring structure alone (picture above) holds 120 textile ducts (Ø=500 mm, L=6 m).

#### FACTS:

Installation contractor:	Imtech Ventilation
Architects:	FOJAB / Snöhetta
Materials:	ACP Luftbehandlingsprodukter / KE Fibertec AS

Temperature measurements of May 2015 show total mixing and even temperature at different room heights



**Even temperature and total mixing effect**

Textile ducts with lasercut holes that distribute almost the entire quantity of air provide perfect mixing effect thus maintaining constant temperature which is important for this type of research facility. Measurements in the main building carried out in May 2015 showed a temperature difference of less than 0.4 °C at all measuring points.



**TECHNICAL DATA:**

Year of construction:	2015
System:	KE-Inject (Hybrid)
Colour:	Light grey (RAL 9002) Black (RAL 9005)
Material:	Trevira CS HDC
Suspension:	D-Lite Alu / Safetrack

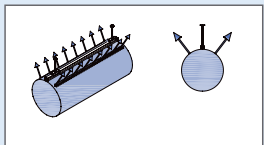




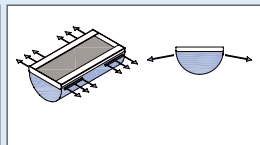
The main priority of this project was to secure an even temperature throughout the building since a temperature difference of only a few degrees could affect the accuracy of the instruments. This was achieved by using textile ducts from KE Fibertec.

Per Kvennefors, ACP Luftbehandlingsprodukter AB

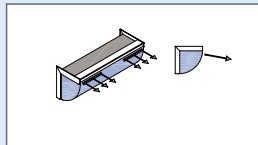
KE-Inject System



KE-Inject System (D)



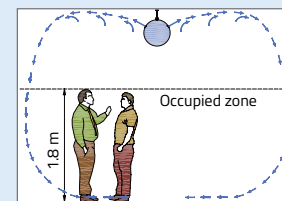
KE-Inject System (1/2D)



### Hybrid ventilation and high dust holding capacity materials

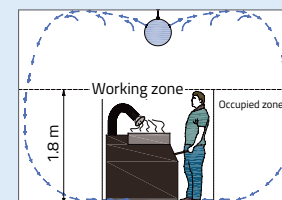
This solution is based on Hybrid Inject textile ducts that distribute the air not only through the surface but also through small lasercut holes. This results in an excellent mixing effect of the air in the room. The outer ducts of the ring have also been fitted with a few  $\varnothing 24$  mm nozzles that direct a portion of the air towards the ceiling.

The textile ducts are made of 100% polyester fabric designed for high dust holding capacity. In addition, much of the air is delivered through the holes, ensuring many years of use before washing is needed. KE Fibertec applies a Trevira CS polyester material (HDC) that is approved according to fire standard EN 13501-1 (B-s1-d0). This material also meets the requirements of Sundahus, a Swedish database of environmentally friendly construction materials.



### OCCUPIED ZONE FOR HIGH IMPULSE SYSTEMS

As with low impulse ventilation, the occupied zone is not a standardised area, but a zone which is defined from one project to another in consultation with the architect and client. The occupied zone is often defined as the zone from the floor up to a height of 1.8 m above people who are in a standing position doing their job, while this height is set to 1.1 m for people who are seated.

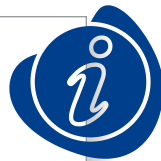


### WORKING ZONE FOR HIGH IMPULSE SYSTEMS

In the case of industrial premises, it may also be appropriate for high impulse systems to divide the room up into a working zone as the state of the air may vary from the general level as a result of industrial processes. Heat and pollution sources are often present which require special measures to be able to maintain a satisfactory indoor climate in the working zone. If processes are carried out which cause extreme pollution, textile based ventilation should therefore be supplemented with local extraction vents.



KE Fibertec AS is market leader in Textile Based Ventilation. We create good indoor climate through our tailored textile ducts for installation in sports arenas, offices, laboratories, schools etc.



Textile ducts are customizable, easy to install, washable, hygienic, and come in all shapes and colours.

For more information please visit our website: [www.ke-fibertec.com](http://www.ke-fibertec.com).

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