ENGINEERING TOMORROW

Case story | SEM-SAFE® high-pressure water mist system

Lund University Library in Sweden

Digitalising the medieval time and modernising fire safety

Danfoss Fire Safety A/S

Lund University is one of northern Europe's oldest and most prestigious universities, consistently ranking among the world's top 100 universities. The current university, located in the city of Lund in the province of Scania, Sweden, was founded in 1666. The library in Lund University is one of the largest and oldest research libraries. It holds large historical collections that cover over 2000 years in basically all subjects and languages.

Building description

In 2013, the collections in this library took up approximately 107 kilometres of shelving; and around 650 metres of shelving are required every year to accommodate additional volumes.

The University library is currently implementing a number of major digitalisation project. For instance, all medieval manuscripts will be digitalised and made available to researchers. The building's fire safety has been modernised in connection with this.

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SEM-SAFE® high-pressure water mist system
For the Lund University Library project, Danfoss and Dafo fire and rescue systems (the Danfoss business partner in Sweden) have cooperated to find the optimal fire fighting solution for the OH1 hazards to comply with CEN/TS 14972 and the VdS standard. The building is equipped with a SEM-SAFE® high-pressure water mist pump unit with pilot pump.

A total of 780 CEN nozzles are installed in the entire old building. The type of nozzles used is the CEN nozzle type with a 5.5 metres spacing at a height of 3 metres and a nominal release temperature of 57°C.

The library, which was completed in 1907, was constructed using steel girders. There is always a risk of girders melting in the event of fire, and this is why a decision has been made to protect the building using the high-tech, low impact SEM-SAFE® water mist system from Danfoss. Installation of the system began in the first quarter of 2014 and was completed in the first quarter of 2015.

The benefits of SEM-SAFE®
The system's low water consumption limits water damage, keeping people, valuable books, and other effects unharmed. The small pipe sizes also make the system easy to retrofit, without damaging the environment.

The compact SEM-SAFE® high-pressure water mist unit installed at Lund University.

The library at Lund University which is fully covered with SEM-SAFE® high-pressure water mist system for fire fighting from Danfoss.

SEM-SAFE®

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