

# // CASE STUDY

LOCATION: MACKINTOSH AT THE WILLOW, GLASGOW

CONSULTANT: RYBKA

MAIN CONTRACTOR: INGEN TECHNICAL SERVICES

PRODUCTS: XBC UNITS



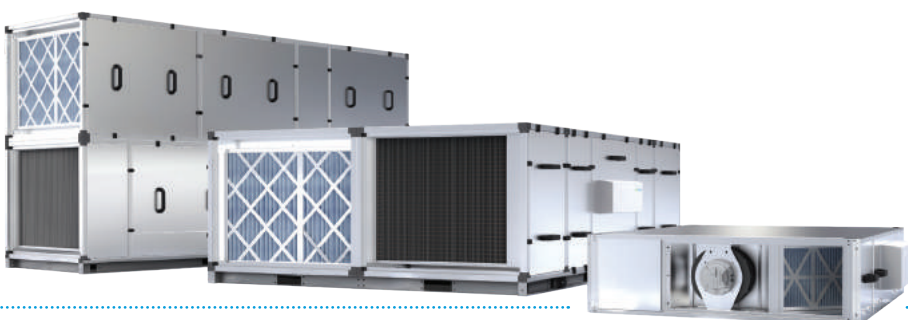
The main objectives were to provide a solution that met the current regulation requirements, provided occupancy comfort, and did not appear intrusive to the exposed services spaces.

David Coulter, RYBKA.



## OVERVIEW //

Nuaire's XBC helps achieve seamless restoration of Mackintosh Tea Rooms.





## // THE PROJECT

Opened in 1903, The Willow Tea Rooms in Glasgow are a key visitor attraction for art, architecture and design lovers alike. The historic building was created by famed architect, Charles Rennie Mackintosh, who had complete control over the architecture and interior decorations right down to the furniture, cutlery and even waitresses' uniforms.

In 2015, an international competition was held to create a restoration team for the Mackintosh at the Willow renovation project. The team would redevelop the historic building into a state-of-the-art visitor, educational and exhibition centre.

RYBKA were chosen to provide all M&E design services for the project and were involved with the project from early 2015. Ingen Technical Services completed all M&E installation works.

A tight programme was put together with strict deadlines to ensure the building was handed over in time to celebrate Mackintosh's 150th birthday on 7th June 2018.

## // DESIGN RESTRICTIONS

The expert renovation team behind the project had the challenge of working mainly from black and white photos contained in an art periodical. Focus was put on the complexity of the project, ensuring that every detail was considered with respect and admiration for the site. Commenting on the ventilation design, David Coulter of RYBKA explains: "The main objectives were to provide a solution that met the current regulation requirements, provided occupancy comfort, and did not appear intrusive to the exposed services spaces."

Another difficulty was ensuring that any renovation work complimented the existing architecture seamlessly; with only minor structural alterations to be made. Nuaire's award-winning XBC heat recovery range was used as a solution to the many restrictions the A-listed building presented.

XBC heat recovery units have the highest duty by size on the market, meaning project coordinators were able to achieve required levels of efficiency and airflow duties, whilst ensuring the majority of structural aspects of the building remained unchanged.

David Coulter stated: "The XBC's slim profile allowed us to achieve the exposed services approach throughout each floor by ensuring that the correct performance and control measures could be achieved."

## // SUMMARY

As the only surviving Tea Rooms designed by the renowned artist, Mackintosh at the Willow Tea Rooms has a great deal of historical significance. Following sign-off of all restoration work in early September 2018, the new attraction was officially reopened by Prince Charles, who stated: "It's a remarkable achievement. I'm full of admiration."

The renovation will ensure that the building remains active for many years to come.

## // UNIT APPLICATIONS

**XBC** – HEAT RECOVERY SERVING: EXHIBIT SPACE, FIRST FLOOR, SECOND FLOOR, BASEMENT

**SQUIF** – KITCHEN EXTRACT

**ECOSMART BOXER** – KITCHEN SUPPLY

**AVT** – PLANT ROOMS, TOILET BLOCKS, POWDER ROOM, SERVERY AREAS

**OPUS** – WC AREAS

For more info, please visit:  
[www.nuaire.co.uk/XBC](http://www.nuaire.co.uk/XBC)



The XBC's slim profile allowed us to achieve the exposed services approach throughout each floor by ensuring that the correct performance and control measures could be achieved.

