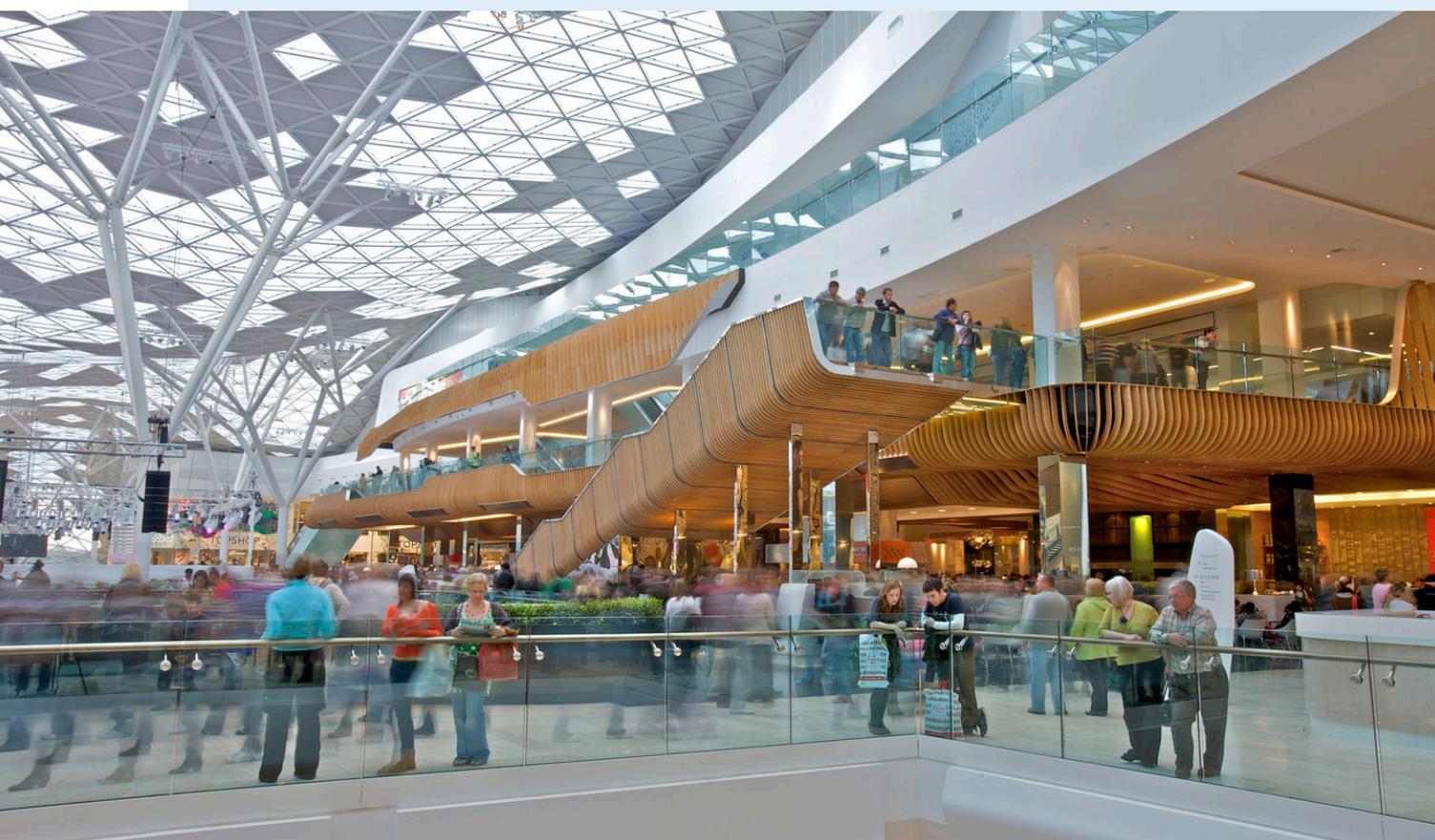


Largest Indoor Shopping Centre in Europe

One of the largest and most prestigious shopping centres in Europe opened its doors in October 2008.



| | |
|--------------------------|---|
| Line of Business: | Air Conditioning |
| Application: | Air Conditioning |
| Country / City: | Great Britain / London |
| Fluid: | Glycol |
| Product: | Drycooler GFH, Sine Control Device GDRS |

With a sales area as large as 30 football pitches, the Westfield London Shopping Centre receives more than 10,000 visitors every day. With 265 stores and its truly captivating architecture, the shopping centre brings its visitors the ultimate shopping experience. Open to the public since October 2008, Westfield London accommodates some of the world's finest luxury brands, among them renowned brands such as Mulberry, Louis Vuitton and Prada. Other attractions include a 14-screen multiplex cinema and 46 restaurants. A drycooler system was required for Westfield London that could meet the shopping centre's air-conditioning demands. For this purpose Hans Güntner UK Ltd was approached. "After a thorough design process Güntner received the order for



61 dry coolers from Imtech Meica Ltd. In order to satisfy the high expectations of Westfield London, units were designed with the acclaimed Güntner GDRS sine controller ensuring the strict noise restrictions were adhered to." explains Justin Scofield, Managing Director of Guntner UK.



61 Güntner GFH drycoolers ensure low-noise and energy-efficient operation at Westfield London.

Güntner GFH drycoolers with GDRS sine controllers

With the site situated in one of the busiest regions of London, deliveries had to be carefully programmed resulting in the Güntner GFH dry coolers being delivered in 61 separate truck loads.

In order to achieve an optimal air flow to and from the units, the dry coolers have been placed in 5 rows on the shopping centre's roof. The longest row consists of 20 dry coolers of the type GFH 080.3A/2X6-N(S)-F6/2P, installed side by side. The dry coolers are equipped with the special Guntner supporting profile and therefore have fewer feet and consequently less supporting steel work. This resulted, not only in less work on the building site, but less weight on the roof. Another advantage is that the units are equipped with Güntner's proven floating coil design that further protects against leakages and consequently leads to long service.

Low-noise operation

The shopping centre Westfield London is surrounded by residential buildings and therefore noise was a critical element of the planning

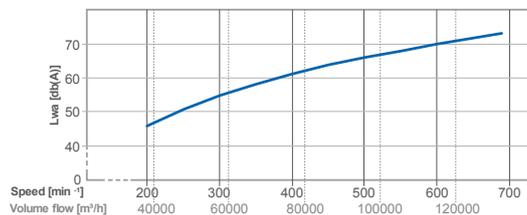
application. In order to satisfy these requirements, Guntner UK selected GFH dry coolers with fans to achieve both normal and night time conditions controlled with the Güntner sine controller GDRS. The Güntner control systems reduce the fan speed during night-time operation to a minimum, so that residents are not disturbed by fan-induced noise. At the same time, the sine controllers combine an energetically optimal continuous fan control with a low-noise and energy-efficient operation. Due to the integrated sine filters, the service life of the fans is considerably enhanced. Unlike conventional controllers, the sine controller GDRS generates no control-induced noise. Even at velocities with a frequency of approx. 0.5 Hz, i.e. at less than 1 % of the calibrated speed, the sine controller operates without generating additional noise.



The drycoolers operate at a low-noise mode.

Investments of more than £ 1.6 billion

Westfield Construction, a company of the Westfield Group, is responsible for the construction of the shopping centre in Shepherd's Bush, in the London Borough of Hammersmith and Fulham. The state-of-the-art complex has been built in five years' time by a workforce of 8,000 and with an investment volume of 1.6 English Pounds. Westfield London is the largest shopping centre in London, the third largest of its kind in England and the largest indoor shopping centre in Europe.



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