



Cool heads on air thanks to tailor-made dry cooling

The tower of the Turkmenistan Broadcasting Center with its octagonal star is 211 meters high and can be seen from afar. The construction in the Turkmenian capital of Ashgabat, demanding with regard to architecture and engineering, was a challenge for both construction engineers and craft enterprises. After all, the Turkmenian head of state desired to have a first broadcasting center to go on air after a four-year construction period on the 20th anniversary of the declaration of independence.

Four weeks prior to the scheduled test operation, the tower was mainly still a shell construction. Only one lift was in operation at that time, so the individual companies had to stick to a strict timetable to be not in each other's way as partly more than 3,000 fitters and craftsmen were working on the construction site.

Realising this ambitious plan required non-stop work on the building, including perfect planning and material delivery. For example, the transmitters were installed at the same time as the air conditioning and sprinkler systems while, one floor above, part of the platform was filled with concrete.

Overview

Business line:	HVAC
Application:	Air Conditioning
Country/Region:	Turkmenistan/Ashgabat
Fluid:	Water/glycol
Product:	Güntner dry cooler FLAT Vario GFH

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▲ Güntner supplied 14 compact dry coolers of the FLAT Vario GFH series with each 21 kW of heat dissipation capacity. The coolers dissipate the air from the transmitters to the ambient air.



▲ The coolers had to be transported to their place of installation at a dizzying height via one lift that was operated. For this purpose, there was a timetable for the 3,000 craftsmen working at the construction site partly at the same time.

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The continental climate in Turkmenistan is characterised by hot and dry summers. This is why reliable and fail-safe cooling is so important for the seven TV and the six radio stations, for all the offices and the food and beverage areas.

The power amplifiers of the TV transmitters R&S Nx8600 are cooled via a refrigeration cycle consisting of a pump unit and dry coolers. An Antifrogen N/water mixture (39 %/61 %) is used here as cooling medium. The waste heat is dissipated to the ambient air via extremely fail-safe Güntner dry coolers of the GFH series.

In the course of the construction works, it turned out that there was not enough space for standard-size dry coolers. Anyway, standard units would not have supplied the required re-cooling power on the provided set-up area. So Güntner made adjustments to their units and delivered 14 compact dry coolers of the FLAT Vario GFH series with 21 kW each of heat dissipation capacity. The layout of 14 units with two fans each provides a high degree of redundancy for the cooling system.

In 2012, the eye-catching building that can be seen from afar was awarded the first prize at the „European Property Awards“ in the category „Public Architecture“.

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