

## ***Reliability with class A energy efficiency***



<b>Line of Business:</b>	Commercial Refrigeration
<b>Application:</b>	Supermarket Cooling
<b>Country / City:</b>	Switzerland / Altstätten
<b>Fluid:</b>	R404A, R134a
<b>Product:</b>	Condenser GVHX

In the previous edition of heatXchange we introduced the new GVHX, the first flat-bed condenser to use microox® technology. Since series production began at the beginning of the year the series has made good progress and is already well established in the market. Now we would like to tell you about one of the first projects to use this new flat-bed condenser. The project is refrigeration for a supermarket, a standard application for commercial refrigeration that is eminently suitable for Güntner's new series.

Two of the first GVHX condensers were used in a Denner supermarket in Altstätten, Switzerland. The company engaged for the planning and construction, Celsio AG, from Dällikon in

Switzerland, has been active in Switzerland for eight years, primarily in shopfitting. They decided to use two highly energy-efficient units from the new GVHX condenser series.



These GVHX condensers are equipped with particularly quiet and energy efficient EC fans.

One crucial factor in this decision was the desire to keep the volume of refrigerant as low as possible. In view of the relatively long conduits between the compressor and the condenser, it

was important to select units requiring a relatively low volume of refrigerant, for example, to reduce the size of the necessary collection vessel. Noise was another important factor, so the extremely low noise pressure rating of the two chosen units was particularly significant. That they were also able to offer class A energy efficiency was an additional bonus.

The new Denner supermarket in Altstätten has the usual cooling requirements of a supermarket, i.e. both freezers and normal refrigeration. The refrigeration circuit for the freezers uses R404A; the GVHX needed for this circuit has energy efficiency class A, and a sound pressure level of 31dB (A) at a distance of 5 metres. The condensing temperature is +39°C. The installed condenser is a ZF Copeland 13K4-RG. The refrigeration circuit for the normal refrigeration uses R134a; the GVHX needed for this circuit also has energy efficiency class A, and a sound pressure level of 34dB (A) at a distance of 5 metres. The condensing temperature is +44°C. Two Bitzer 4CC-6.2Y condensers were used here.

Since the condensers are installed on a flat roof they were configured for an input air temperature of 34°C. They were naturally installed with extra long feet so that when the flat roof heats up in the sun the fans do not take in the resultant hot air.

### **Background info on Denner:**

Denner is Switzerland's leading discount food store with over 440 branches all over Switzerland and employs ca. 3,600 people. There are also a further 320 "Denner Satellites" – independent detail traders in rural areas – which offer additional products over and above Denner's range. (Source: [www.denner.ch](http://www.denner.ch))