



Highly efficient hot-air generation up to 70 °C with simultaneous provision of cooling at 14/20 °C

Two thermeco₂ heat pumps (type HHR 130) ensure smooth-running processes at ALBA Recycling GmbH in Eisenhüttenstadt.

The ALBA Group employs around 7,500 people, and is active in Germany, Europe and Asia with its ALBA and Interseroh brands. In 2015 the company achieved a turnover of around 2.2 billion euros. This means that the ALBA Group is a leading provider of recycling and environmental services and a leading supplier of raw materials around the world. In 2015 alone, the recycling activities of the ALBA Group saved almost 5.9 million tons of greenhouse gases when compared to primary production, and around 51.8 million tons of primary raw materials.

Before plastic packaging can be turned into granulate in an extruder, it first needs to be crushed (into flakes), washed and then dried again. The two thermeco₂ heat pumps are deployed in the thermal drying production step, and their advantages come into full play.

They heat hot water with a capacity of 100 kW each and thereby heat the outside air used to dry the flakes. The heat pump obtains its source from the machine cooling for the extruder, so it also generates a cooling capacity of approx. 160 kW at the same time. This relieves the existing refrigeration systems used to cool the extruder.

Turnkey container solution

As it was not possible to set them up in the production hall for space reasons, the heat pumps were integrated in a 20foot turnkey container. This container made a set-up on the roof possible.

CO₂, an eco-friendly refrigerant

It was very important to the customer that the chosen refrigerant be eco-friendly, so that there will be no restrictions (e.g. F-gas Regulation) on its use in future. We were easily able to provide this planning and investment security with carbon dioxide, a natural refrigerant. Among environmentally neutral refrigerants, CO_2 has the additional advantage of being non-toxic and above all non-flammable.

Lower energy costs

Considering the annual cooling performance, the simultaneously generated heat and the return cooling costs, this solution offers significant energy cost reductions when compared to conventional cold and heat generation.



Simplified system schematic



ENGIE Refrigeration GmbH Josephine-Hirner-Straße 1&3 | D-88131 Lindau, Germany Phone: +49 8382 706-1 | Fax: +49 8382 706-410

> refrigeration@de.engie.com engie-refrigeration.de

