

Modern Extraction Technology For Kitchen Manufacturer

Warendorfer Küchen GmbH invests in modern extraction technology from Höcker Polytechnik and realizes great savings

Warendorfer Küchen GmbH, formerly known under the brand name "Miele Die Küche" - and now under Warendorf - started using **3** large-scale filter systems supplied by the equipment manufacturer Höcker Polytechnik from Hilter in Lower Saxony, Germany right on schedule on **1 January 2011**. After months of preliminary project talks and the development of the precise requirements profile, the equipment manufacturer Höcker Polytechnik was able to assert itself with its concept against renowned competitors from across Europe.

The equipment previously used by Warendorfer Küchen GmbH was growing old and no longer met today's safety requirements and performance standards. Extremely high energy consumption of the old equipment at approximately **440 kW** of drive power was a key criterion in awarding the contract for the new equipment with significantly better performance.

The demanding structural requirements for the new system constituted another focal point, and were successfully met by the German manufacturer on schedule.

Three large-scale filter systems were realized with continuous purge air cleaning, so that the units can be shut down in three-shift operation without turning off the extraction fans. The total operating performance of the overall system is approximately **210,000 m³/h**. High-performance fans with a nominal drive power of **324 kW** are installed in sound-insulated booths. All fans are speed controlled with frequency converters, allowing the operator to minimize energy consumption under all operating conditions. Extremely high inrush currents when powering up and starting the fans of the old system also resulted in tremendous peaks for the operator in the past, so that the energy supplier billed for very high reserve capacities.

Compared to the old technology with significantly less extraction capacity, the operator is realizing annual savings in the vicinity of **EUR 60,000** in this area alone. Additional situation-specific adaptations in the area of the conveying systems for disposal are planned. In terms of controls, the overall system was equipped with Siemens PLC technology and convenient visualizations. This allows the operator to access the current operating states easily in graphical form at any time.

Warendorfer Küchen realized the greatest potential savings for operation on the **2nd** shift in particular, since only **75 kW** are required on the frequency converter today – compared to **250 kW** in the past. A reduction of **175kW/h** was therefore achieved



for this area alone. Another challenge was to use only one chip conveying system to transport the chips from the three new filter units to a final chip storage location. Höcker Polytechnik chose a high-pressure material transport blower with only **30 kW** of drive power. The high-pressure feed pipe with a total length of **300 metres** was also included in the scope of delivery.

Noise protection requirements were also met in an exemplary manner. The sound level of **72 dB(A)** is not exceeded at a distance of approximately **2 metres** along the three units. Notwithstanding highly challenging construction site conditions and extreme winter weather, the system was handed over to Warendorfer Küchen GmbH right on time.

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