

# MultiStar cleans up your furniture production



GCW Kitchens: clean manufacturing

## GCW Custom Kitchens & Cabinetry bets on HÖCKER POLYTECHNIK expertise



Machines coupled via automatic gate valves

**ON LAKE ERIE** kitchen dreams come true. With its 70 employees, GCW Custom Kitchens & Cabinetry Inc. from St. Thomas in Ontario makes the wishes of their customers in Canada and the United States come true with stylish perfection. And with kitchens ranging in price from \$5,000 to \$250,000, GCW has the right solution for every need and requirement – precision installation included of course.

GCW uses modern machinery and knows how important professional dust removal is to have work processes running smoothly and to produce the highest product quality. So when the production facilities were relocated and the production capacity expanded, the old extraction unit was really put to the test. The conclusion was clear: the overpressure system was overburdened with the increased demands on energy efficiency and extraction performance. A new purchase would lay the groundwork for a productive future.

### HÖCKER POLYTECHNIK DEVELOPS EXTRACTION SOLUTION

GCW turned to HÖCKER POLYTECHNIK GMBH from Germany and its Canadian sales and service representative Taurus Craco Woodworking Machinery Inc. of Brampton, as a partner for this ambitious project. In close cooperation with experienced project manager Uwe Rother, HÖCKER designed an extraction solution perfectly matched to the new production environment.

Proven a 1,000 times over, the MultiStar filter solution now operates as a powerful filter system outside the new production facility. To reduce the distances between production machines and filters to a minimum, the unit was positioned as centrally as possible. The siting of the filter was facilitated by the minimal space required by the MultiStar filter – with a footprint of only 4 x 4 m.

Also, the technical data of the MultiStar filter is quite impressive. The filter operating in the vacuum produces an extraction performance of 60,000 m<sup>3</sup>/h and has reserve capacity to connect additional equipment when required. This airflow is generated by the three fans built into the clean-air side fan attachment module with a total capacity of 100 kW. This keeps fans and transported materials strictly separate and thus safe from ignition – a clear plus in terms of fire and explosion protection.

### AMORTIZATION WITHIN THREE YEARS, THANKS TO HEAT RECOVERY

The air extracted by the MultiStar filter system has a residual dust content of only 0.1 mg/m<sup>3</sup>/h and is returned directly to the operation via a system of ducts. A return air system with residual dust monitoring recycles the heat generated in the production process. This saves on fuel for the heating, and the entire system can pay for itself in just three years.

The filter is cleaned via highly efficient compressed air impulse cleaning (jet cleaning) in which the filter hose and filter cake are blown clean by a blast of compressed air from the inside out. In the background, the controller monitors the differential pressure and activates the jet cleaning as soon as the degree of contamination of the filter hoses reaches a predetermined threshold. The cleaning stages are significantly reduced and operating costs for compressed air minimized, the filter material is spared and the noise level reduced.

An agitator with articulated spring arm technology operating horizontally on the floor of the filter, safely discharges and transports the filtered material into the chip container by means of a rotary valve and a transport fan. The agitator also automatically discharges material intermittently up to a certain volume and weight, so that the transport fan does not have to operate continuously. This also saves energy.

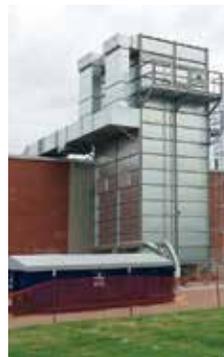
This solution allows for energy-saving and low-noise operation. Compared to the old system, the suction power and extraction performance has been increased by approximately 50%.

### SMART CONTROLLER REDUCES ENERGY COSTS

Naturally, HÖCKER POLYTECHNIK also connects the production machinery to the central extraction unit in the production facility. More than 30 automatic gate valves ensure that the vacuum required for optimum extraction is always at the point where it is needed and that machines are disconnected from the extraction system when shut down. In the background the smart PLC control system monitors the filter operation and adjusts the ventilation power to the output required in the production process. The combination of gate valves coupled to the controller with the fan motors controlled by the VFD, ensures optimum extraction performance at fair energy use, regardless of whether only one machine is in use, or extraction takes place at 30 stations.

GCW Kitchen is aware of its responsibility to the environment and is optimally supported by HÖCKER POLYTECHNIK GmbH in all aspects of energy efficiency.

Energy-saving features such as the energy-saving MultiStar filter, a return air system designed to recycle the heat extracted with the air to the production facilities, and the energy-efficient controller ensure a reliable production environment with minimal energy consumption.



MultiStar filter installation with warm air recirculation and pneumatic transport into chip container



MultiStar filter installation, compact and versatile

For more information, please contact:

**HÖCKER  
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*Always one idea ahead*

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