It’s no secret that the global corrugated packaging industry has experienced unprecedented growth with projections for continued growth over the next several years. Contributing factors, such as booming e-commerce, increasing disposable incomes, and the consumption of non-durable consumer goods, are fueling the demand. With increased demand come the pressures of increased productivity and profitability.

The industry has taken many steps forward to meet and exceed these growing expectations. In the early 1990s, pull collars were replaced with vacuum transfer during the process of registration. This move created a higher quality product at a lower cost to the customer, all while making the process more efficient.

Soon after implementation, manufacturers noticed that the new vacuum transfer system was generating turbulent air that did not occur with the pull collar system. Plant owners found huge amounts of dust on their print stations and throughout their plants, causing disruption and delay to the registration process and leaving room for potential lower quality end product.

Manufacturers were introduced to options still seen on the market today, such as conventional bag houses, hanging bags and wet scrubbers, to help optimize the vacuum transfer process. However, these systems required additional equipment and/or use of water, making them costly to maintain and cumbersome to operate. There was still a need for advanced technology that paralleled the implementation of vacuum transfer in order to endure industry growth.

Mike Carver, Managing Partner of Engineered Recycling Systems (ERS), heard many of his customers voicing the same concerns about their plants due to vacuum transfer. It was becoming evident that the current marketplace solutions were antiquated with the increasing demand for paper products. Driven by a desire to find an optimal solution, Carver and his team conceptualized the Continuous Cleaning Modular (CCM) Filter.

“We are a group of problem-solvers,” said Carver. “We don’t manufacture our
own product. Our goal is to provide customized solutions for whatever challenges our customers are facing. We seek the highest quality equipment and technology from a variety of trusted partners, and create a system that best suits the need at hand.”

Carver’s travels led him to a discovery of this new filtration system. He had seen its effectiveness in other industries, and with his team, envisioned how it could serve his own customers. The vision was brought to fruition through a partnership with the leading manufacturer of this technology last year, and the team began integrating it into their many customer offerings. Upon introduction to the market at TAPPI CorrExpo 2017 in Providence, R.I., installations have begun across the U.S. with many ordered both domestically and internationally.

The CCM Filter’s key features have helped manufacturers in optimizing vacuum transfer. Its regenerative unit results in low pressure loss. The system is NFPA and OSHA guidelines-compliant without additional equipment. It handles large volumes of air with a smaller footprint. Lastly, the functionality of the filter is visible during operation. These factors have allowed for increased productivity, thus impacting manufacturers’ bottom lines.

Mike Creech, Sr. Special Projects Engineer of Greif Packaging, LLC, was one of the first to have a CCM Filter installed. After experiencing a bag house fire, he searched the Internet for a suitable solution to get his facility back on line. He found ERS, and together they explored what options would be best.

“We no longer struggle with confined space requirements in order to service the filter media,” said Creech after installation of the CCM Filter. “Our scrap blowers do not suffer from lost velocity due to plugged filter bags. We can physically see the condition of our filter, and it has reduced dust build-up throughout the facility.” Perhaps best of all, Creech has noticed “huge cost savings for maintenance when servicing the equipment.”

How It Works

The design of the CCM Filter completely departs from conventional filter systems. The CCM Filter is stationary and can be installed in a variety of ways to optimize floor space. The incoming air flows from the inside to the outside, leaving the drum through the whole filter surface. Rotating and oscillating suction nozzles inside of the drum continuously vacuum any dust and waste from the filter media. Little air is required to clean the filter media because of the efficiency of the suction nozzles. The nozzles are fluidic-optimized and touch the filter media, which guarantee high and efficient cleaning.

Engineered Recycling Systems
www.engineered-recycling.com