

Watch Maker Makes Time for Dust Collection Safety, Energy Savings

Product: Gold Series®
Size: (2) GS8 Models in a Redundant Configuration
Application: Metal and Buffing Compound Dust from Grinding
Customer: Micro-Mechanics - Malaysia
Representative: Yielden Filtration Sdn Bhd



Challenge

As a growing company in Malaysia, a watch manufacturer faced daunting health and safety challenges. One of the most concerning at Micro-Mechanics was the safety and well-being of the employees grinding and polishing their watch components. The company turned to Camfil Farr APC after realizing that a locally produced dust collection system was not meeting their specialized needs. Oh Poh Seng, sales representative for Yielden Filtration Sdn Bhd, worked in conjunction with Camfil Farr APC to provide a superior dust collection system that would surpass expectations.

Solution

In order to solve the problem with insufficient dust collection, Micro-Mechanics employed the use of two Gold Series® collectors with drop-out modules. The units extract and filter buffing compounds, fibers released from the buffing wheel and minute metallic particles being generated from seven workstations. Each unit utilizing source capture hoods in-line with the buffing wheels. Employees typically polished stainless steel parts using a buffing wheel and a buffing compound, and in the process generated fine dust particles that were a

Farr APC Case Study (con't)

real health concern to management. The old system just could not handle the mixture of fibrous strands being released from the buffing wheels, the buffing compound and the fine metallic particles being released from the buffing process. With the assistance of advisors from Camfil Farr APC and Yielden Filtration, the Micro-Mechanics management team decided to take the design one step further. By returning the air back into the facility, the team had concluded there were real energy savings that could be capitalized on. The system would not only clean the air more efficiently, but Micro-Mechanics could also reap the return-on-investment by reducing their energy consumption.

Additional design criterion identified by management included improving the localized source capture of the dust, reducing downtime and planning for expansion. The second consideration (in addition to the recirculation criteria) for management and Yielden was how to best capture the particulate in the buffing area. Individual buffing stations necessitated the localizing of hood designs in order to draw air and dust away from each employee. This would improve health conditions for the operators. Next, with two shifts of eight employees operating the buffing stations, costly downtime work stoppages needed to be eliminated. The use of two Gold Series GS8 units with drop-out modules created a fail-safe redundant system. Utilizing two GS8 units allowed for one GS8 unit to go 'off-line' for rare maintenance, while the other Gold Series GS8 unit continued eliminating disruptions in production. By incorporating drop-out modules in the inlet configurations, dust loadings were reduced as well by preventing larger, fibrous material from packing into the pleated media and allowing the cartridges to contend with the finer particles. It was not hard for management to count the cost of two shifts of six employees each going 'down', therefore the drop-out-module design concept was deemed of critical importance. The fourth consideration for Micro-Mechanics' management team required them to take a proactive posture. Sales were rising and expansion was quickly becoming a reality. Expansion needed to be considered. At the time, the production room had seven workstations. The manufacturer realized that with a growing business, the production room would quickly need the capacity to expand into three more stations, creating the possibility of ten cumulative workstations and a lot of additional filtration. It was decided that the need to reduce downtime and the need to plan for the future could both be addressed by moving forward with the two Gold Series GS8 units.

The creation of a unique and specialized Farr APC Gold Series dust collection system not only met each and every one of this Malaysian manufacturer's needs, but as of this writing it also has run smoothly for over a year with the original filters.



For further information regarding this application, contact Oh Poh Seng, sales representative for Yielden Filtration Sdn Bhd at 604-310808.