MONROE ENVIRONMENTAL
Water & Wastewater Treatment | Air Pollution Control

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CASE STUDY

Packed Tower Scrubber Rebuild

Extending the Life of an Existing Fume Scrubber

Scrubbing system **rebuilds** and **service maintenance plans** can go a long way to extending the life of your existing pollution control equipment.

At Monroe Environmental, we're experts in troubleshooting and rebuilding competitor units to bring them up to like-new efficiency and performance standards. Monroe's competitors are typically unwilling to tackle the problems of another manufacturer's equipment. With Monroe's expertise, a system that is currently under-performing can be made into a satisfactory, efficient scrubber through new parts, instrumentation, repairs, and service.

The Benefits

Equipment that performs like new at a greatly reduced cost compared to the price of new equipment – savings of up to 70% are possible.

Faster project schedules and less downtime – waiting several months for new system, and longer installation at site (average 2 – 3 weeks) vs. a few days downtime.

Existing permitting can often remain in place. Compliance requirements are to the standards of the previous equipment, and not a new system. The cost of new permits plus emission testing can be > $10,000 vs. lower costs of existing permits.

Challenge

A medical implant manufacturer had noticed a steady decline in the effectiveness of their fume scrubbing system. Low flow and low efficiency led to inadequate control of nitric acid fumes. Monroe was called to assess the system and make recommendations. It was determined that a rebuild of the existing scrubber (non-Monroe) was the fastest, most cost-effective solution.

Before: *(Left) A build-up of bacteria and particulate, as well as overheating and pipe corrosion rendered the customer's scrubbing system ineffective.*

After: *(Right) A system rebuild by Monroe's Service team transformed this competitor's failing system to an efficient Monroe Scrubber.*

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Solution

- **A new additional access door was added** to allow for future cleaning/ improved maintenance.
- **A new recirculation pump, flow meter, and chemical feed pump** replaced existing parts that were corroded and overheating.
- **Drain lines from the fan were installed,** allowing a path for acid to drain back into the scrubber. Without this, excess acid could potentiality damage the roof.
- **Scrubber outfitted with all new PVC piping.** The existing metal pipes were corroding from acid service.
- **A Capsuhelic differential pressure gauge was installed** to allow the customer to easily monitor the performance of the scrubber and to determine new maintenance intervals.
- **Improved packing media, mist pads, and new spray nozzles** were installed to resist build up of bacteria and particulate.
- **The unit was totally cleaned** inside and out.
- **Cracks on existing tower were repaired** by Monroe plastic welders.
- **Training was provided** to operators and maintenance staff.

Result

The exceptional Monroe Service Team duo of Josh and Kaleb performed the rebuild in record downtime – only three days, five days on-site total. The customer is so pleased with the increased efficiency that Monroe will be rebuilding several other scrubbers at the customer's various locations, as well as providing regularly scheduled maintenance.

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