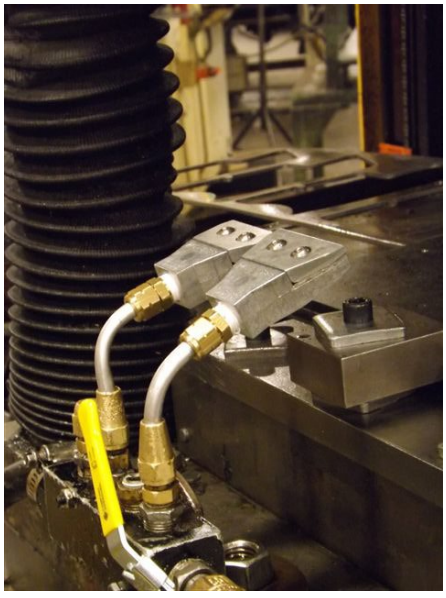
EXAIR® Case Study

1556

APPLICATION GOAL: A stamping facility wanted to reduce the noise level in their facility, in order to comply with OSHA standards for noise exposure. The application is to move a 12" X 12" stamped piece of .187" thick plate of aluminum across a 6" conveyor to be flush against a wall for the next process.

BEFORE EXAIR: After the blank is stamped, they used (4) open tubes with an outer diameter of 5/16" to move the plate across a conveyor. The noise level near the open tubes was over 110 dBA, which violated OSHA Standard 29 CFR-1910.95(a) for even 30 minutes of exposure. The open pipe also violated OSHA regulation 1910.242 (b), which requires that any opening that can be dead ended cannot exceed a static pressure of 30 PSIG. Also, the open pipes use a tremendous amount of compressed air. In order to move the stamped parts, the compressor system in facility was increased to 100 PSIG. Some pressure loss occurred in the piping system of the facility, so the tubes were supplied with 70 PSIG at the inlet. 5/16" Aluminum piping had an ID of .183" and was 18" long. That tube supplied with 70 PSIG flows 22.8 SCFM. The customer was using (4) of these tubes for a total air usage of 91.2 SCFM.

AFTER EXAIR: With EXAIR's HP1125 2" Flat Super Air Nozzle, the customer was able to accomplish the same task with (2) Flat Super Air Nozzles as the (4) open pipes. The HP1125 features a 2" flat airflow that was able to float and move the plate much easier than the round erratic pattern of the open pipe. The noise level in that area dropped from over 110 dBA to 83 dBA, which is below OSHA maximum allowable exposure for an 8 hour day. The HP1125 flows up to 37 SCFM at 80 PSIG, so the EXAIR solution only consumed 74 SCFM. A reduction of 17.3 cubic feet per minute. **At a cost of $0.25 per 1,000 cubic feet, the (2) HP1125's saved $0.26 per hour or $1,557 per year** (when the nozzles are run 8 hours a day for 250 working days)**.**



SUMMARY: The customer replaced (4) open pipes with (2) HP1125 nozzles. The nozzles complied with OSHA requirements for noise and dead end safety, while saving the customer over $1,557 per year in wasted compressed air.

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