

## CASE STUDY — Custom Blower System: Low Noise, Low Pulsation, Low Cost

*University of Cincinnati*

### BACKGROUND:

The client required a pressurized air system for a research project. The university team received funding to perform the work and they met with us to discuss how to obtain a system that would meet their physical and financial needs.

### CHALLENGES:

- Low Air Flow Pulsations - The nature of the process required the discharge air to have very low pulsations and minimal turbulence.
- Low Noise - The facility was located near a local EPA office, therefore sound attenuation was a priority.
- Low Cost - The grant received by the client was intended to be the major source of funding for their system.



*The discharge silencer pictured above is much larger than a standard discharge silencer and provides an additional means for minimizing turbulence.*

### SOLUTION:

We proposed the use of a helical screw blower system to minimize both noise and air pulsations. The nature of the proposed blower allows for gradual equalization of the discharge air into the discharge piping. This minimizes both noise and pulsation in the system. To further minimize the pulsations we provided a customized discharge silencer designed for this type of application. Customization usually equates to higher project expense which is why we proposed the use of a Gardner Denver factory authorized remanufactured bare blower for the client's system.

### RESULT:

The unit was successfully installed in August of 2007. The unit has enabled the research team to begin experimentation and collect data. Due to our unique ability to customize and view many solutions for a problem we were able to meet the clients financial and system requirements.