Case Study: Heating A Restaurant Dining Area

# The Background:

When the owners of a Chinese restaurant in Prospect Park, PA had issues heating their dining space, their HVAC provider recommended a larger unit. After the installation, the unit continued to run for short periods of time and then shut off without ever bringing the dining area to the desired temperature.

The frustrated owners resorted to sending restaurant staff up on the roof to reset the new HVAC unit. They quickly realized that this was an untenable situation both for safety and productivity, and called Oliver Mechanical to request a service call and a second opinion on how to heat the cold dining area.

When the Oliver team arrived, they noticed that the proprietors also had a portable air conditioning unit in the dining room to help cool the space during the summer months. In spite of the new unit, this critical space in the building was not conditioning properly for either hot or cold weather.

# Diagnosis:

The Oliver team suspected an air flow problem and took a Cubic Feet per Minute (CFM) reading at each supply register. These measurements of air returning back from the space helped the team determine that the new system was too large for the existing duct system. The restricted air flow caused the system to short cycle and prevented it from conditioning the space properly.

While inspecting the rooftop unit, the Oliver team found that the already inadequate ductwork had been further reduced with the installation of the new system.

{Pictures 133636 and 133709}

# Proposed Solutions:

The key recommendation by the Oliver team was to increase the size of the main supply and return ductwork to accommodate the amount of air that the new unit was designed to provide. The team also custom designed the proper amount of supply and return air needed for the dining area by increasing the size of the supply branches and adding return branches.

The proposed solution also included an option for the work to be completed outside of the customer’s dining service hours of operation.

# The Outcome:

The customer accepted the Oliver Mechanical proposal for duct modifications. All of the new, larger ductwork was built in-house at the Oliver sheet metal workshop to the custom specifications outlined in the proposal. The installation was completed in one business day, and the Oliver Mechanical team had the dining area clean and ready for dinner service by the customer’s normal scheduled opening time.

The Oliver team retested the airflow and took another set of CPM readings. These measurements showed the proper amount of air being supplied to and returned from the dining area.

The new HVAC unit is running properly and is now able to satisfy the temperatures being called for at the thermostats – without any help from portable units!

The larger, weather sealed ductwork provided the proper comfort solution for this customer.

{Pictures 105026 and 103335}

# What Did The Customer Think?

*{Place in a graphic or call out box}*

*“Thanks to Oliver Mechanical for diagnosing a problem that we have been having for years! My customers are now dining in comfort. The only issue I have now is that I didn’t call Oliver Mechanical before I spent all that money on a new unit.”*

# Are you facing a similar conundrum?

At Oliver Mechanical, we love a good technical puzzle and we know that sometimes it can help just to talk it through with someone. That’s why we’re offering a free 30-minute consultation phone call with one of our senior technical advisors to any building or property manager who could use a sounding board on a technical issue. You can request an appointment using the calendar below – go ahead, try it out!