

## SERVICE CALLS



**Misdiagnosed Motor** - MSC was called in by a new client to provide a second opinion on a large fan motor that was diagnosed as irreparable. Replacement would have required use of a crane and would have been very expensive. MSC examined the motor and determined that the motor windings were fine and the problem was due to an oxidized contactor – low-cost fix.



**Dehumidification** - Certain pharmaceutical processes require low humidity conditions of 20-30% RH. Many desiccant dehumidifiers use a face-and-bypass damper to regulate air through and around the desiccant wheel to control RH. When MSC was called in to determine why a unit was malfunctioning, technicians discovered a large actuator mounting screw that was driven through the damper during installation, preventing its operation.

## The PM Gap: Day-One Preventative Maintenance

There is a common industry-wide misconception among new or renovated facility operators that new HVAC systems do not require preventative maintenance (PM) during the first year or so of operation. Many companies find out too late that this erroneous belief can lead to some costly consequences.

- 1. Failure to perform monthly or quarterly PM may void the manufacturer's warranty.** Most manufacturers offer a one-year warranty of parts and equipment commencing at project completion, but they usually stipulate specific maintenance items that must be performed within that period. Facility owners who believe that first-year preventative maintenance is unnecessary and that replacement of parts and equipment is guaranteed regardless of the cause of failure are often in for a rude awakening when manufacturers refuse to honor the warranty when a maintenance record cannot be provided.
- 2. HVAC system efficiency begins to decline upon initial startup,** which often occurs months before the building is turned over to the owners. Preventative maintenance helps to keep the system running optimally and prevents it from operating in a prolonged inefficient state. Also...

### INSIDE...

- [The Preventative Maintenance Gap / Service Calls](#)
- [Honeywell Spyder / Meet Pete McGrath](#)
- [Medical Case Study / Condensate Management](#)
- [Did You Know - ISNetwork](#)

**3. Equipment life expectancy may already have been impacted** by the time delayed PM finally begins.

**4. When multiple quarterly PM calls are disregarded for a year or more, a large accumulation of neglected maintenance procedures must be performed at once.** As a result, the initial PM is large and detailed, takes far longer than usual, and facility operators experience sticker shock when presented with the bill.

Confusion about this issue has been a long-term problem, and MSC is working hard to educate clients to recognize the necessity of beginning a comprehensive PM program early on. For more information about preventative maintenance, contact MSC at 973-884-5000.

## HONEYWELL SPYDER: Economical Options for Controls

There are many business owners, facilities managers, and maintenance directors who are challenged with dealing with troublesome control systems that are pneumatic, antiquated, or no longer supported by the manufacturer. Replacement options that offer system flexibility are oftentimes extremely expensive and are simply not within the average modest budget. Honeywell's Spyder Controllers offers an excellent solution.

Honeywell Spyder Controllers provide users with unitary control that allows the flexibility to bring together a wide variety of HVAC equipment without requiring a plant controller. Models are available as either Unitary or VAV controllers using Echelon LONMARK protocol. They can support single- or dual-duct VAV, complex room CO2 control, terminal fan speed, and much more.

### Spyder Controllers offer:

- Reliable individual room temperature control.
- Pressure-independent or –dependent flow control.
- Wide application flexibility for all VAV and constant volume terminal unit applications.
- Maximum energy savings through time-of-day control, load optimization, occupancy sensor interface with standby setpoints, and demand limit control.
- Automation savings through features such pressurization / depressurization, night purge, morning warm-up and terminal regulated air volume.



## Pete McGrath Rejoins MSC - Technical Sales Rep.

When owner Harry Hartigan invited Pete McGrath to join MSC in 1980, he was one of only three employees. Pete worked in the field for several years servicing refrigeration systems for gasoline vapor recovery then moved on to HVAC installation work. In 1994, when MSC purchased a small HVAC firm, Pete moved into the office to manage and integrate the newly-acquired accounts. He was soon promoted to head MSC's growing mechanical division and was made a partner. When MSC shifted its primary focus to service and controls, Pete departed to start his own company, Freedom Mechanical, which specialized in industrial and pharmaceutical HVAC installations. Pete ran Freedom for eight years, then joined Monsen Engineering for a year and a half.

Now, Pete has come full circle back to MSC and his old friend Harry Hartigan, selling design/build small projects, replacements, and larger service repairs, for a range of clients. The main reason he rejoined MSC, Pete says, is due to the respect he has for Harry. "I've been in this field for 37 years and have found no one in the industry who knows more about HVAC than Harry. I've learned more from him than any school or seminar I've ever attended."



Pete and his wife, Sue, have three grown daughters. He enjoys solar energy projects, surf fishing on the Jersey Shore, and writing short stories. Welcome back, Pete!



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973-884-5000

## MEDICAL FACILITY CASE STUDY

**MSC was contacted by a client with a complaint that there was inadequate air flow on the first floor of a three story building containing patient rooms.** The building had been renovated in phases (by floor) with a different engineering firm and a different contractor used for each phase. The first phase included renovation of the penthouse and the third floor. The penthouse was previously an old “built up” type system with fan rooms and the renovation included new walls and equipment, but it remained as a “built up” type system. Then the second floor came online, and finally the first floor three years after completion of the first phase. The problem became apparent when the first floor was occupied. With so many people having been involved, the client could not determine who was responsible.

MSC was given the assignment of determining what was wrong and we proceeded with our normal planned step by step diagnostic. We gathered information by taking air flow measurements, investigating the performance of the parallel vane axial fans, the construction of the penthouse, and the ducts and appurtenances exiting and entering the penthouse. In the end, we determined that the parallel supply fans were not capable of overcoming the system resistance and were operating in an unstable condition known as fan surge.

The next step was to prove beyond a shadow of a doubt what was happening and why, since our presentation was to be made to the hospitals’ engineering staff and the original designer. [download the PDF here.](#)



## HVAC Condensate Management

**Summer is here, and with high heat and high humidity comes condensation.** Issues can arise from improperly drained and insulated condensate. Condensation can overflow in drain pans and leak into ceilings and under roof insulation. It can back up in piping and pumps that have clogged with slime. Condensate can also trigger mold growth if not treated properly. Always keep condensate pan piping and pumps clean and free-flowing. On warm humid days, remember to check where condensation may be occurring. Make sure that condensate is properly dripping down coils into supplemental drain pans and not carrying over into other sections of the air handler. Lastly make sure your P-traps are sized for the proper static pressure in your air handlers.



### DID YOU KNOW...

○ MSC has received an A rating from ISNetwork. ISNetwork is a global resource for connecting corporations with safe, reliable contractors in capital-intensive industries.

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