

SERVICE CALLS



Gas PRV problem - A large new project had issues with gas boilers and package AHUs shutting off due to erratic gas pressure. Incoming pressure was steady at 2 in. WC, while downstream pressure fluctuated from 0 to 12 in. MSC technicians found that the installed pressure reducing valve was unsuitable for the system and successfully replaced it with the correct PRV.



Chem-free steam humidification - There are two basic types of steam humidification: steam from a boiler and chemical-free steam produced from purified water through a heat exchanger. Chem-free steam requires particular attention to piping so that condensate can properly drain by gravity from the humidifier wand. Otherwise, the wand may flood into the AHU or ductwork and can affect performance.

Quality PM for Best Return on Investment

The benefits of first-rate preventative maintenance are numerous and invaluable: maximum equipment lifespan, reduced emergency calls, minimized down time, greater energy savings, and a comfortable, healthy environment for occupants. A quality PM program is essential, with a heavy emphasis on quality. PM is not the place to cut corners and save money, and comparing a low-budget annual belt-and-filter change to a comprehensive program is akin to the proverbial apples to oranges. Poorly-maintained systems invariably cost far more in the long run – well into the tens of thousands – and have a significantly shorter lifespan, not to mention the loss of revenue that comes with increased downtime.

Always opt for a reputable contractor like MSC, whose PM program includes all manufacturer-recommended maintenance tasks as well as a system operation analysis to identify potential issues and improve performance. **Lower-cost PM programs are often presented as a comparable product, but building operators are consistently surprised by the many inadequacies when shown a side-by-side comparison with a quality plan.** Decision makers who choose to go with the cheap plan to “save money” should be prepared to pay the price when the opposite happens down the line.

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Check and double check your contractor's credentials, and always make sure the maintenance services you pay for are actually performed. **It is not uncommon for MSC to be called in to address issues where a service company was supposed to have been performing maintenance according to a PM plan, only to find evidence to the contrary.** Examples range from somewhat insufficient to downright unscrupulous, in which case considerable effort and expense is required to correct the problems caused by these so-called PM programs.

MSC is a true HVAC and controls service company specializing in maintenance, diagnostics, and repair. **To find out more about our comprehensive Preventive Maintenance Program please visit our website or call us today.**

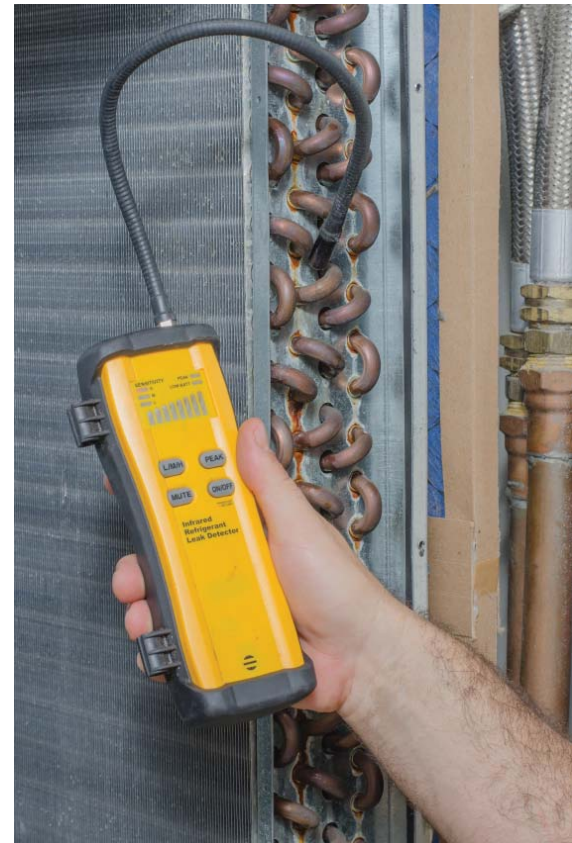
REFRIGERANT LEAKS: Let's Get Serious

Refrigerant leakage is too often regarded as more of a nuisance than the more serious problem it actually is. Detecting refrigerant leaks can be highly challenging, and far too many HVAC technicians and maintenance workers would rather keep recharging a leaking system than find and repair leaks. But refrigerant leaks can have costly financial, environmental, and legal repercussions.

Leaking refrigerant is harmful to the environment and increases operating, service, electricity, and replacement refrigerant costs, particularly for older systems still using R-22. The environmental impact of a leak of just 1 kg of refrigerant is equivalent to driving a van 10,000 miles. Even new, more-environmentally-friendly HFCs and HFC blends, such as R410A, contribute to global warming. Section 608 of the Clean Air Act prohibits the intentional venting of refrigerants, and the EPA regulates all appliances with a refrigerant charge of 50 lbs or more. If annual leak rates exceed 35% for industrial process or commercial refrigeration, or 15% of comfort cooling or other appliances, owners must make repairs within thirty days. **The EPA can assess fines of up to \$37,500 per day for refrigerant violations.**

There are a number of methods that can be used to detect refrigerant leaks, and some work better than others depending on the types of refrigerant and system size and configuration. A simple soap solution is a moderately effective, tried-and-true technique that can be used to pinpoint suspected leaks. Fluorescent additives have a number of drawbacks and some manufacturers will void compressor warranties if additives are used. There are several different types of electronic detectors, or "sniffers", including corona discharge, heated diode, and infrared, which are very effective. Finally, highly-sensitive ultrasonic devices can be used to detect sound waves emitted by leaking refrigerant.

Areas that should be checked for leaks include fusible plugs and pressure relief valves and their vent lines, couplers, inside pressure switches, service valve stem glands, and Schrader valves. It should be noted that there are often multiple leaks of varying sizes, so an entire system should always be inspected.



Swing season is here. The long, hot, humid summer is behind us, and we are enjoying the fair days and cool nights of fall. As we transition from cooling to heating, now is the time to make sure your economizer cycles are working properly to take advantage of the free cool nighttime air.

Autumn is also the time to perform preventive maintenance on all of your systems. Remember - good PM goes well beyond changing filters and belts. **We recommend inspecting heat exchangers, balancing hydronic systems, checking heat pump systems, and checking heating controls.** If you are consider retro-commissioning, fall is an ideal time to do it.



Ready for the
Heating Season



NEWSLETTER - OCTOBER 2014

973-884-5000

RUN-AROUND LOOP for Lab Energy Recovery

Air handling systems that require 100% outside air at high ventilation rates, such as those used in laboratories, can expend an excessive amount of energy up to 10 times more than the average system. The use of an energy recovery system such as a run-around loop can significantly reduce energy requirements.

The basic function of a run-around loop, also known as a run-around coil, is to transfer heat from an exhaust air stream to a make-up air stream via a liquid medium, usually water and glycol. A finned tube coil in the exhaust plenum is connected to a finned tube coil in the make-up air plenum or AHU by a piping circuit. Pumped heat exchange fluid absorbs heat from the exhaust air and transfers it to the supply air stream. It can also be used to transfer energy between process loads and ventilation air.

Run-around loops are best suited in applications where supply and exhaust airflows must be separated, since they are less efficient than other heat recovery methods where separate airflows are not a requirement. **For more information on run-around loops, or for advice on choosing the best energy recovery option for your application, please contact MSC at 973-884-5000.**



Fan Belt Problems

Though the HVAC industry is steadily moving towards eliminating the need for fan belts with direct drive fans, the majority of HVAC fans are still belt-driven or indirect. When performing preventative maintenance or repair, it is important to select the right fan belt and to ensure that it is properly aligned and adjusted. Belts that are too loose will slip, and too-tight fan belts will wear and break quickly. On new installations, it should never be assumed, even though the fan is brand new, that the belt is properly aligned. Fan belts must be adjusted as part of the air balance to ensure that they are working properly. The accompanying photo shows one of several failed fan belts on a new project that were not adjusted at installation, creating havoc for the customer during commissioning.



DID YOU KNOW...

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