

Engineering Bulletin

Mini-Split Maintenance

Six key steps in maintaining Ductless mini-split systems

Once the equipment is installed, an annual maintenance regimen is very straight-forward.

There are six key stages in the routine maintenance of multi-zone ductless systems:

1. It's important to keep the primary filters clean. Consider the environment they're in, the presence of airborne dust and debris and hours of operation. Some indoor units ("evaporator units," or "air handlers") will require only annual cleaning of the easily-removed mesh filters. In warehouse or laundry areas, it may be important to clean them monthly.
2. Some manufacturers offer sophisticated indoor air quality (IAQ) filtration. Most are easily removed and cleaned. The Fujitsu system is programmed to alert an occupant or building owner of the need to clean the IAQ filter after 400 hours of operation. Be sure to keep plasma IAQ filtration clean.
3. Check to be sure that the evaporator coils are clean. Though indoor air handler coils are amply protected by the various levels of filtration, it's good to examine coil cleanliness each year. If the evaporator units are mounted in unusually hostile environments where pollutants and airborne debris are common, it may be necessary to clean the coils every year or every two years. Coils usually require cleaning on a bi-annual basis. Typically, evaporator coil cleaning entail... Remove front cover of the unit in question, visually inspect evaporator coil, if needed vacuum the evaporator coil with a soft bristle brush attachment removing all dust and debris. Chemicals can be used but should be diluted with water so that it will not damage the metals as well as the surroundings of where the unit is installed, NOTE; if chemicals and water is needed to clean please SHUT OFF MAIN POWER to the equipment. Next step is too be sure drain pan is free of any mold, mildew and or algae that would cause any unpleasant odor or clogging, again using household bleach and diluting with water would be sufficient enough to remove any grime mentioned. Also check to make sure that the flexible or rigid drain hose is also free of all clogs as well. Last be sure that all equipment is dry of any water before re-assembling and turning power back on.
4. Are the fan wheel and blower assembly in balance? It's very uncommon for this to be a problem, but units can be challenged by heavy accumulations of airborne grime and debris, such as in fast food kitchen locations, or in feed mill operations.
5. Is the condensing unit in top shape? Check refrigerant lines for apparent bumps or dents. Are the insulation wraps in good shape, or have they deteriorated from exposure to UV radiation? Is the unit mounted solidly on its base? Has the base moved, or is it slipping for any reason?
6. Make sure that the outdoor condensing unit's horizontal discharge is free of debris. These systems rarely attract debris, but if grass clippings are thrown into them from nearby mowing, or if an abundance of wet leaves collect around the unit, these should be removed. If cleaning is required . . .
Shut off electrical power to the entire system; you can shut off main breaker in main panel or shut off power at the main outdoor disconnect located near the outdoor unit. Next important job is cleaning the condenser coil; a fan that basically sucks outside air through the fins, leaving them covered with lawn clippings, dirt, bugs, dead leaves and other debris. This fun little job may need to be done every couple of weeks during the spring and summer when pollen and dandelion "wishies" are flying around freely in the air! Use a garden hose and a soft nylon brush to clean the condenser coil fins. Chemicals can be used please refer to indoor unit coil cleaning. Two copper tubes that should be wrapped separately from one another connect the compressor and the condenser coil to the evaporator coil back inside the house. Visually inspect the insulation for signs of wear or damage. If need be replace insulation on copper tubing if worn or dried out and disintegrated. If you see any signs of refrigerant or oil leaking inside or around the compressor or condenser, its also time to give your A/C pro a call.