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| **Improving Heat Pump Performance By Sealing Ducts** |
| According to a report on research funded by Energy Star‚ more than 50 percent of all heat pumps have significant problems with low airflow, leaky ducts, and incorrect refrigerant charge. You can improve the performance of your system by [increasing airflow](http://www.gemplumbing.com/lmlb_heat_pump_improve_performance.html), **sealing ducts**, or [adjusting the refrigerant charge](http://www.gemplumbing.com/lmlb_heat_pump_adjusting_charge.html).  Measurements of heat pump performance indicate that duct leakage wastes 10 to 30 percent of the heating and/or cooling energy in a typical home. It's one of the most severe energy problems commonly found in homes because the leaking air is 20°F to 70°F warmer than indoor air in winter and 15° to 30°F cooler in the summer.  Duct leakage may cause some minor comfort problems when ducts are located in conditioned areas. But when leaky ducts are located in an attic or crawl space, the energy loss is often large. Some of the worst duct leakage occurs at joints between the air handler, and the main supply and return air ducts.  Some main return ducts use plywood or fiberglass duct-board boxes. These boxes frequently leak because their joints are exposed to the duct system's highest air pressures.  Heating and air-conditioning contractors often use wall, floor, and ceiling cavities as return ducts. These building-cavity return ducts are often accidentally connected to an attic, crawl space, or even the outdoors, creating serious air leakage.  Fiberglass ducts and flex ducts are often installed improperly. These ducts may also deteriorate with age, leading to significant supply-duct leakage.  The best heating and cooling contractors have equipment to test for duct leakage. Testing helps locate duct leaks and indicates how much duct sealing is necessary. Do not use duct tape for sealing —- its life span is very short, often less than 6 months. |