

Ductless Mini-Split Heat Pumps

INFORMATION FOR INSTALLERS OF MINI-SPLIT HEAT PUMPS and CODE ENFORCEMENT OFFICERS

Pursuant to Memorandum of Understanding between the Maine Electricians' Board and the Maine Fuel Board (10/23/13)

A mini-split heat pump (MSHP) is an electrical appliance capable of providing both heating and cooling. The system transfers the heat energy from outside air into your home through the refrigeration process. MSHPs are highly efficient due to the fact that the primary fuel resource (outside air) is free. The systems consist of both an outdoor unit and an indoor unit.

The Memorandum of Understanding (MOU) in effect today permits the complete wiring and electrical servicing of MSHPs by Maine licensed master or journeyman oil technicians in one- and two-family dwellings, and in existing multifamily dwellings with electric heat. A licensed oil technician is permitted to wire both the outdoor unit and the indoor unit(s), and any auxiliary equipment permitted to be connected to the dedicated heating circuit, such as Class 3 control wiring, if applicable.

For both new and existing one- and two-family dwellings, the installer must ensure that the electrical service and/or feeder has an ampere rating large enough to handle the additional load. The MOU limits the scope of installation to existing multifamily dwellings with electric heat. Adding a MSHP load to an existing multifamily dwelling without electric heat would likely overload the service. (A comprehensive electric load calculation would have to be performed to determine the required amperage of the service necessary to power the heat pumps.) Where electric heat exists, it is likely that there is enough "headroom" in the service capacity to operate both heat sources concurrently for a short-term duty cycle. It is expected that homeowners will keep the electric baseboard heating units turned off as long as the heat pump is capable of handling the heating load. When the outside temperature falls below 5 degrees Fahrenheit, the electric baseboard heat will be the only electric heating load.

An oil technician is permitted to install the overcurrent protective device in the electric panel, (fuses or circuit breaker) provided an unused space is available. Most of the units being installed operate on 240 volts, so two vertically adjacent spaces will need to be available. The technician is not permitted to move existing circuit breakers or fuses in order to provide the adjacent spaces, since several National Electrical Code rules would come into play. Most concerning is that rearranging circuit breakers could alter multiwire circuits, potentially overloading neutral conductors.

The permission to wire MSHPs does not include the installation of the service receptacle outlet required by the NEC, unless the service receptacle is included as an integral part of the outdoor disconnect for the appliance. The service receptacle shall not be connected to the heat pump circuit. If not an integral part of the outdoor disconnect, the service receptacle required by Code will need to be wired by a properly licensed electrician.

Heat pumps rated 36,000 BTU and over are not included in this MOU, since these units will not involve the more common wiring procedures. Mini-split systems that are designed only for cooling are not within the scope of this MOU. This MOU is not intended to change the electrical permitting practices of local electrical inspectors. All installations must comply with the National Electrical Code as adopted by the Maine Electricians' Examining Board.