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# Minisplit Permitting and Licensing Guidance for 1 & 2 Family Dwellings

Based on the 10th Edition of 780 CMR

The Office of Public Safety and Inspections recognizes that ductless mini-split systems (mini-splits) have increased in prominence as standalone retrofit installations, and this document seeks to provide guidance on the permit and license requirements for their installation. This guidance covers standalone installations in one and two-family dwellings and **NOT** installations that are part of new construction or a larger renovation where they would be subject to the building permit for that other work. Our goal is to ensure consistent application of the Massachusetts Building Code across the Commonwealth while recognizing that the Building Official having jurisdiction must make individual determinations based on an application of the code to the specific facts before them.

## What is a mini-split?

According to the 2021 International Mechanical Code, Section 202 a ductless mini-split system is:

*"A heating and cooling system that is comprised of one or multiple indoor evaporation/air-handling units and an outdoor condensing unit that is connected by refrigerant piping and electrical wiring. A ductless mini-split system is capable of cooling or heating one or more rooms without the use of traditional ductwork"*.

## Permitting and Licenses

It is important to first understand how 780 CMR Chapter 51, The Massachusetts Residential Building Code (780 CMR Residential) handles permitting for mechanical systems and/or mini-splits. The permitting process for mechanical systems is described in 780 CMR Residential R101.4.2 Mechanical:

**"***The installation of mechanical systems shall generally be governed by the International Mechanical Code — 2021 ("IMC"). The scope of this adoption shall be governed by Sections 101 and 102 of the IMC, no other aspect of Chapter 1 of the IMC is adopted. However, this adoption shall not be deemed to apply to work governed by the Specialized Codes pursuant to M.G.L. c. 143, §96, including but not necessarily limited to sheet metal work as defined in M.G.L. c. 112, §237. Not withstanding this adoption, where a conflict exists between the IMC and any other provision of 780 CMR (including any other referenced standards or codes adopted therein), compliance with 780 CMR shall be required."*

The above section establishes what sections are defining the permitting process for Mechanical Systems, which is identified as 780 CMR Residential R105 Permits and not the 2021 International Mechanical Code with Massachusetts Amendments (IMC). 780 CMR Residential R105.1 Required states:

*"It shall be unlawful to construct, reconstruct, alter, repair, remove or demolish a building or structure; or to change the use or occupancy of a building or structure; or to install or alter any equipment, or life safety systems for which provision is made or the installation of which is regulated by 780 CMR without first filing an application with the building official and obtaining the required permit."*

According to this provision, installing any equipment regulated by 780 CMR Residential will trigger the requirement to have a permit issued by the Building Official, and 780 CMR Residential R105.2 Work Exempt from Permit does not list a mini split system as exempt from a permit.

**Does a mini split qualify as a mechanical system?**

780 CMR Residential R202 defines a mechanical system as:

*"A system specifically addressed and regulated in this code and composed of components, devices, appliances and equipment."*

A mechanical system includes appliances and equipment. A heat pump is specifically addressed and regulated within this code as well. As noted previously, equipment requires a permit.

The definitions of appliances and equipment are as defined in the 780 CMR Residential R202 Definitions:

Appliance
*"A device or apparatus that is manufactured and designed to utilize energy and for which this code provides specific requirements"*

Equipment
*"Piping, ducts, vents, control devices and other components of systems other than appliances that are permanently installed and integrated to provide control of environmental conditions for buildings. This definition shall also include other systems specifically regulated in this code."*

If the mini split includes any of the above items defined in equipment that is permanently installed and integrated, that component would qualify as equipment.

**Does a mini split system include piping, ducts, vents, control devices and other components?**

The 780 CMR Residential Code does not provide any more information regarding mini splits. Regarding heat pumps 780 CMR Residential M1403.1 addresses the listing and labeling requirements per UL/CSA/ANCE only. However, per 780 CMR Residential M1301.1 Scope:

*"The provisions of this chapter shall govern the installation of mechanical systems not specifically covered in other chapters applicable to mechanical systems. Installations of mechanical appliances, equipment and systems not addressed by this code shall comply with the applicable provisions of the International Fuel Gas Code and the International Mechanical Code."*

This states that anything not covered by 780 CMR Residential will be covered by 2021 International Mechanical Code with Massachusetts Amendments (IMC). As two codes will be referenced, it is important to establish a hierarchy of terminology between both codes in case of any conflict between definitions or text. This is defined in two sections, R201.3 Terms Defined in Other Codes and R201.4 Terms not Defined.

Terms Defined in Other Codes:
*"Where terms are not defined in this code such terms shall have the meanings ascribed in other code publications of the International Code Council."*

Terms Not Defined:
*"Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies."*

Based on this section, if there are terms not defined within 780 CMR Residential 202, then the terms defined in the International Code Council (ICC) publications, in this case the IMC, will be used. Or, if there is no definition, then use the normally accepted meaning based on context. If there are two terms that are in conflict, then the previously referenced 780 CMR R101.4.2 Mechanical states to use the 780 CMR Residential definition and direction.

As already covered, a Heat Pump is defined within 780 CMR Residential 202. However, IMC 202 defines a heat pump as:

***"****A refrigeration system that extracts heat from one substance and transfers it to another portion of the same substance or to a second substance at a higher temperature for a beneficial purpose."*

This IMC definition is broader and more technical compared to the previously referenced definition in 780 CMR Residential 202, as this one omits the word appliance. 780 CMR Residential R101.4.2 Mechanical states to use the 780 CMR Residential definition in cases of conflict, however there may still be a more applicable definition. The IMC 202 does provide a definition of a ductless mini-split:

***"****A heating and cooling system that is comprised of one or multiple indoor evaporator/air-handling units and an outdoor condensing unit that is connected by refrigerant piping and electrical wiring. A ductless mini-split system is capable of cooling or heating one or more rooms without the use of a traditional ductwork system."*

This definition is more specific than heat pump and better describes the exact system being used. Per 780 CMR Residential R201.3 Terms Defined by Other Codes, because this term is not defined in the 780 CMR Residential, this definition will be used to define Ductless Mini-Splits and not the broader Heat Pump. This definition further defines the components not explicitly listed within 780 CMR Residential. One of the components listed is refrigerant piping. Piping is not defined in 780 CMR Residential R202, but is defined in IMC 202:

Piping:
*"Where used in this code, "piping" refers to either pipe or tubing, or both."*

Pipe:
*"A rigid conduit of iron, steel, copper, copper-alloy, or plastic."*

Tubing:
*"Semirigid conduit of copper, copper-alloy, aluminum, plastic or steel."*

Piping is listed in the definition for *Equipment* per 780 CMR Residential R202 Definitions.

**Is a permit needed?**

**Yes**, based on the code sections described above, 780 CMR Residential requires a mini-split system is part of a Mechanical System, as defined by 780 CMR Residential R202, and contains Equipment, as defined in 780 CMR R202. Equipment is listed as an item requiring a permit. Therefore the 780 CMR states that a Ductless mini-split system requires a permit.

**Is a construction supervisor's license required for the installation of a mini-split system?**

**No**, a construction supervisor's license is not required for the most basic of installations but is required if cutting or notching of building elements is required. The license information can be found at 780 CMR Residential 110.R5.1.3 Scope:

*"Individuals supervising persons engaged in construction, reconstruction, alteration, repair, removal or demolition involving any activity regulated by any provision of 780 CMR, shall be licensed in accordance with 780 CMR 110.R5. Individuals engaged in the supervision of the field erection of manufactured buildings in accordance with 780 CMR 110.R3, shall be licensed as construction supervisors.*

Note that the installation of equipment is not listed within the type of work requiring a license.