

CEC-LMCI-MCH-01-E

### SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

#### **CERTIFICATE OF INSTALLATION**

**Note:** This table completed by ECC Registry.

Project Name:	Enforcement Agency:
Dwelling Address:	Permit Number:
City and Zip Code:	Permit Application Date:

#### A. General Information

#### Notes:

- The outdoor design temperatures for heating shall be ≥99.0% Heating Dry Bulb or the Heating Winter Median of Extremes values.
- The outdoor design temperatures for cooling shall be ≤1.0% Cooling Dry Bulb and Mean Coincident Wet Bulb values.

01	Dwelling Unit Name	0	02	Climate Zone	
03	Dwelling Unit Total Conditioned Floor Area (ft²)	0	04	Number of Space Conditioning Systems in this Dwelling Unit	
05	Certificate of Compliance Type	0	06	Method Used to Calculate HVAC Loads (See Section 160.3(b)1).	
07	Outdoor Design Condition Source (See Section 160.3(b)2	0	08	Cooling Outdoor Design Temperature Selected (°F)	
09	Heating Outdoor Design Temperature Selected (°F)	1	10	Calculated Dwelling Unit Sensible Cooling Load (Btu/h)	
11	Calculated Dwelling Unit Heating Load (Btu/h)	1	12	Dwelling Unit Number of Bedrooms	

MCH-01b - Space Conditioning Systems Ducts and Fans - Prescriptive Alterations

Registration Number: Registration Date/Time: CA Building Energy Efficiency Standards - 2025 Low-Rise Multifamily Compliance

CEC-LMCI-MCH-01-E

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**B. Space Conditioning (SC) System Information** 

	0 1 1								
01	02	03	04	05	06	07	08	09	10
SC System ID/Name from LMCC	SC System Description of Area Served	CFA served by this SC System (ft <sup>2</sup> ):	Is the SC system a ducted system?	Does work include installing a refrigerant containing component?	Does work include installing new SC System components?	Does work include installing more than 25 feet of ducts?	Does work include installing entirely new duct system?	Does work include installing entirely new SC system?	Alteration Type
Notes:		<u> </u>							

C. Space Conditioning (SC) System Alterations Compliance Information

									Number	İ
						Cooling		Number	of	Central Fan
					Cooling	Minimum		of	Ducted	Integrated
	Heating				Cooling Minimum	Efficiency		Indoor	Indoor	(CFI)
Altered H	Heating Minimum	Cooling	Altered	Cooling	Efficiency	Value	Required	Units for	Units for	Ventilation
	Efficiency Efficiency	System	Cooling	Efficiency	Value	EER/EER2/	Thermostat	this	this	System
Component	Type Value	Туре	Components	Type	SEER/SEER2	CEER	Туре	System	System	Status
										 [
+	Component	Component Type Value	Component Type Value Type	Component Type Value Type Components	Component Type Value Type Components Type	Component Type Value Type Components Type SEER/SEER2	Component Type Value Type Components Type SEER/SEER2 CEER	Component Type Value Type Components Type SEER/SEER2 CEER Type	Component Type Value Type Components Type SEER/SEER2 CEER Type System	Component Type Value Type Components Type SEER/SEER2 CEER Type System System

D. Installed Heating Equipment Information for Gas Furnace Indoor Unit, or Heat Pump Indoor Unit, or Packaged Unit (Gas Furnace or Heat Pump)

	02	03	04	05	06	07	08	09	10
								Multi-Split S	Systems only
								Indoor Unit	
SC System	SC System	Heating	Heating				Rated Heating	Name or	
ID/Name from D	Description of	Efficiency	Efficiency	Heating Unit	Heating Unit	Heating Unit	Capacity,	Description of	Indoor Unit Duct
LMCC A	Area Served	Туре	Value	Manufacturer	Model Number	Serial Number	Output (Btu/h)	Area Served	Status
Notes:									

Registration Number: Registration Date/Time: CA Building Energy Efficiency Standards - 2025 Low-Rise Multifamily Compliance



CEC-LMCI-MCH-01-E

### SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

E. Installed Cooling Equipment Information for Outdoor Condenser or Package Unit (Air Conditioner or Heat Pump)

	<u> </u>				<u> </u>				
01	02	03	04	04b	05	06	07	08	09
SC System	SC System	Cooling	Cooling	Cooling Efficiency	Condenser or	Condenser or	Condenser or	System Cooling Capacity at Design	Condenser Nominal
ID/Name	Description of	Efficiency	Efficiency Value	Value	Package Unit	Package Unit Model	Package Unit	Conditions	Capacity
from LMCC	Area Served	Туре	SEER/SEER2	EER/EER2/CEER	Manufacturer	Number	Serial Number	(Btu/h)	(tons)
Notes:									

F. Altered Space Conditioning System Duct Information (<75% of duct system is altered; or duct system is not altered)

		0 - <u>1</u>									
01	02	03	04	05	06	07	08	09	10	11	12
		Indoor Unit								Can Approved	Indoor Unit
	SC System	Name or	Was Any							Airflow	Nominal
SC System	Description	Description	New		Installed New	Installed New	Installed New	Installed New	Exception	Protocols be	Cooling
ID/Name	of Area	of Area	Ducting	Required New	Supply Duct	Supply Duct	Return Duct	Return Duct	from Min	used to test	Capacity
from LMCC	Served	Served	Installed?	Duct R-Value	Location	R-Value	Location	R-Value	R-Value	this System?	(tons)
Notes:	I	I	1							1	

**G.** Installed New or Complete Replacement Duct System information

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
													Can	
		Indoor		Required						Method of	Number	Can	Approved	
	SC	Unit		New						Compliance	of Air	Approved	Fan	Indoor
SC	System	Name or	Indoor	Duct		New or		New or		with Airflow	Filter	Airflow	Efficacy	Unit
System	Descripti	Descripti	Unit	R-Value		Replaced		Replaced	Exceptio	and Fan	Devices	Protocols	Protocol	Nominal
ID/Name	on of	on of	Total	(Uncondi	Supply	Supply	Return	Return	n from	Efficacy	on	be used to	be used to	Cooling
from	Area	Area	Duct	tioned	Duct	Duct	Duct	Duct	Min	Req's in	Indoor	test this	test this	Capacity
LMCC	Served	Served	Length	Space)	Location	R-Value	Location	R-Value	R-Value	160.3(b)5L	Unit	System?	System?	(tons)
Notes:														

Registration Number: Registration Date/Time: CA Building Energy Efficiency Standards - 2025 Low-Rise Multifamily Compliance

Registration Date/Time: ECC Provider:



CEC-LMCI-MCH-01-E

#### SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

#### H. Installed Air Filter Device Information

Mandatory requirements for air filter devices are specified Section 160.2(b)1. The installer shall place a sticker in or near each filter grille that displays the design airflow rate for that filter grille/rack and the maximum allowed clean filter pressure drop at the design airflow rate. This will inform the occupant of the airflow vs pressure drop performance required for replacement air filters.

01	02	03	04	05	06	07	08	09	10	11	12	13
					Design							Design
		Indoor Unit			Airflow				Air Filter	Air Filter		Allowable
	SC System	Name or	Air Filter		Rate	Air Filter	Air Filter	Air Filter	Calculated	Required		Pressure
SC System	Description	Description	Name or		for Air Filter	Nominal	Nominal	Nominal	Nominal	Minimum		Drop for Air
ID/Name	of Area	of Area	Description	Air Filter	Device	Depth	Length	Width	Face Area	Face Area	Face Area	Filter Device
from LMCC	Served	Served	of Location	Rack Type	(cfm)	(inch)	(inch)	(inch)	(inch²)	(inch²)	Compliance	(inch W.C.)
Notes:												

# I. Air Filter Device Requirements

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

Mandatory Air Filter Device Requirements can be found in Section 160.2(b)1. Some mandatory requirements may apply in addition to those listed below

DCIO	···
01	All recirculated air and all outdoor air (including make up air) supplied to the occupiable space is filtered before passing through the system's thermal conditioning components.
02	The space conditioning system shall be designed to accommodate the clean-filter pressure drop imposed by the system air filter device(s). The design airflow rate and maximum allowable clean-filter pressure drop at the design airflow rate applicable to each air filter shall be determined by the system designer. The system installer shall affix a sticker/label to each system air filter grille/rack location that discloses the filter's design airflow rate and the filter's maximum allowable clean-filter pressure drop at the design airflow rate. The sticker/label shall be permanently affixed to the air filter grille/rack, readily legible, and visible to a person replacing the air filter.
03	All system air filter devices shall be located and installed in such a manner as to allow access and regular service by the system owner.
04	The system shall be provided with air filters having a designated efficiency equal to or greater than MERV 13 when tested in accordance with ASHRAE Standard 52.2, or a particle size efficiency rating equal to or greater than 50 percent in the 0.30-1.0 µm range and equal to or greater than 85 percent in the 1.0-3.0 µm range when tested in accordance with AHRI Standard 680.
05	The system shall be provided with air filters that have been labeled by the manufacturer to disclose efficiency and pressure drop ratings that conform to the efficiency and pressure drop requirements for the air filter grilles/racks.
06	Filter racks or grilles shall use gaskets, sealing, or other means to close gaps around inserted filters and prevent air from bypassing the filter.

Registration Number: Registration Date/Time:
CA Building Energy Efficiency Standards - 2025 Low-Rise Multifamily Compliance



CEC-LMCI-MCH-01-E

### SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

J. ECC Verification Requirements for Duct Systems

01	02	03	04	05	06	07	08	09
				MCH-20	MCH-21	MCH-22	MCH-23	MCH-28
SC System Identification or Name	SC System Description of Area Served	Indoor Unit Name or Description of Area Served	Exemption From Duct Leakage Reguirements	Duct Leakage Test	Duct Location Verification	AHU Fan Efficacy (W/cfm)	AHU Airflow Rate (cfm/ton)	Return Duct Design - Table 160.3-A or B
Name	Area Serveu	Area Serveu	Requirements	Duct Leakage Test	Verification	(W/CIIII)	(CIIII/tOII)	100.5-A 01 B
Notes:					<del></del>	<b>.</b>		

K. ECC Verification Requirements for Space Conditioning Equipment

01	02	03
	0, 6,00	MCH-25
SC System ID/Name from LMCC	SC System Description of Area Served	Refrigerant Charge
Notes:		

# L. Space Conditioning Systems, Ducts and Fans – Mandatory Requirements and Additional Measures

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

Additional mandatory requirements from Section 160.3 that are not listed here may be applicable to some systems. These requirements may be applicable to only newly installed equipment or portions of the system that are altered. Existing equipment may be exempt from these requirements.

## **Heating Equipment**

01	Equipment Efficiency: All heating equipment must meet the minimum efficiency requirements of Section 110.1 and Section 110.2(a) and the Appliance Efficiency Regulations.		
02	Controls: All unitary heating systems, including heat pumps, must be controlled by a setback thermostat. These thermostats must be capable of allowing the occupant to program the temperature set points for at least four different periods in 24 hours. See Sections 160.3(a), 110.2(b).		
03	Sizing: Heating load calculations must be done on portions of the building served by new heating systems to prevent inadvertent undersizing or oversizing. See sections 160.3(b)1 and 2.		
04	Furnace Temperature Rise: Central forced-air heating furnace installations must be configured to operate at or below the furnace manufacturer's maximum inlet-to-outlet temperatures rise specification. See Section 160.3(b)4.		
05	Standby Losses and Pilot Lights: Fan-type central furnaces may not have a continuously burning pilot light. Section 110.5 and Section 110.2(d).		

Registration Number: Registration Date/Time: CA Building Energy Efficiency Standards - 2025 Low-Rise Multifamily Compliance



CEC-LMCI-MCH-01-E

### SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

# **Cooling Equipment**

06	Equipment Efficiency: All cooling equipment must meet the minimum efficiency requirements of Section 110.1 and Section 110.2(a) and the Appliance Efficiency Regulations.	
07	Refrigerant Line Insulation: All refrigerant line insulation in split system air conditioners and heat pumps must meet the R-value and protection requirements of Section 160.3(b)5I, and Section 160.3(b)6.	
08	Condensing Unit Location: Condensing units shall not be placed within 5 feet of a dryer vent outlet. See Section 160.3(b)3A.	
09	Liquid Line Filter Drier: A liquid line filter drier shall be installed according to the manufacturer's specifications 160.3(b)3B.	
Sizing: Cooling load calculations must be done on portions of the building served by new cooling systems to prevent inadvertent undersizing or oversizing. See Section 16		

### **Cooling and Heating Equipment (Additional Requirement)**

	<u></u>		
11	Defrost: See section 160.3(b)7		
	A. If a heat pump is equipped with an installer adjustable defrost delay timer, the delay timer shall be set to greater than or equal to 90 minutes.		
	B. The installer shall certify on the Certificate of Installation that the control configuration has been tested in accordance with the testing procedure in the LMCI.		
	Exception to 160.3(b)7. Dwelling units in Climate Zones 1, 6 through 10, 15, and 16 shall not be required to comply with the 90 minute delay timer requirements.		
12	Capacity variation with third-party thermostats: See section 160.3(b)8		
	Variable or multi-speed systems shall comply with the following requirements:		
	A. The space conditioning system and thermostat together shall be capable of responding to heating and cooling loads by modulating system compressor speed.		

### Air Distribution System Ducts, Plenums and Fans

1		Insulation: The minimum duct insulation value is R-6 or ducts can be uninsulated if the duct system is located entirely in conditioned space. Note that higher values may be required by
	13	the prescriptive or performance requirements. See Section 160.3(b)5Aii for exceptions.
14	1.1	Connections and Closures: All installed air-distribution system ducts and plenums must meet the requirements of CMC Sections 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-
	14	2006.

## **Heat Pump Thermostat**

···cut	neat i amp incimostat			
15	A thermostat shall be installed that meets the requirements of Section 110.2(b) and Section 110.2(c).			
16	The thermostat shall be installed in accordance with the manufacturers published installation specifications.			
17	First stage of heating shall be assigned to heat pump heating.			
18	Second stage back up heating shall be set to come on only when the indoor set temperature cannot be met.			
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Registration Number: Registration Date/Time: CA Building Energy Efficiency Standards - 2025 Low-Rise Multifamily Compliance



CEC-LMCI-MCH-01-E

## SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

# M. Test of Defrost Delay Timer Setting (Section 160.3(b)7)

The installing contractor shall confirm that a heat pump's installer-adjustable Defrost Delay Timer Setting (if it exists) is set to no less than 90 minutes

minu	ıtes.		
01	Test Applicability. Select the statement describing test applicability for this project:  1. The test applies because the heat pump utilizes an installer adjustable Defrost Delay Timer Setting to control defrost and there are no exceptions.  2. The test does not apply because the heat pump does not utilize an installer-adjustable Defrost Delay Timer Setting to control		
02	Recording Configuration of Controls. Specify the mechanism for setting the Defrost Delay Timer Setting (for example, the name of defrost delay timer setting in the thermostat setup, or the location and number of the specific dip switch, jumper, or dial that adjusts Defrost Delay timer).		
03	Record the heat pump's Maximum Availal	ble Defrost Delay Timer Setting (minutes).	
	Record where you set the Defrost Delay Toconfiguration, or dial setting).	imer Setting (fo example, the numeric timer setting, dip switch position, jumper	
05	Record where you set the Defrost Delay T	imer Setting, in minutes.	
	Confirming Configuration of Controls. If possible, the Defrost Delay Timer Setting must be 90 minutes or greater. Confirm the Defrost Delay Timer Setting is at least 90 minutes.		
	KOB-OH		
Regi	stration Number:	Registration Date/Time:	ECC Provider:

CEC-LMCI-MCH-01-E

#### SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

#### **DOCUMENTATION AUTHOR'S DECLARATION STATEMENT**

1. I certify that this Certificate of Installation documentation is accurate and complete.

•	·
Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/AEA/ECC Certification Identification (If applicable):
City/State/Zip:	Phone:

#### RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- 1. The information provided on this Certificate of Installation is true and correct.
- 2. I am either: a) a responsible person eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation, and attest to the declarations in this statement, or b) I am an authorized representative of the responsible person and attest to the declarations in this statement on the responsible person's behalf.
- 3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations and the installation conforms to the requirements given on the Certificate of Compliance, plans, and specifications approved by the enforcement agency.
- 4. I understand that a registered copy of this Certificate of Installation shall be posted or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to ensure this requirement is accomplished.
- 5. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to ensure this requirement is accomplished.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone:	Date Signed:

For assistance or questions regarding the Energy Standards, contact the Energy Hotline at: 1-800-772-3300

Registration Number: Registration Date/Time:
CA Building Energy Efficiency Standards - 2025 Low-Rise Multifamily Compliance

CERTIFICATE OF INSTALLATION - USER INSTRUCTIONS	LMCI-MCH-01-E
Space Conditioning Systems Ducts and Fans - MCH-01	(Page 1 of 8)

#### LMCI-MCH-01b-E User Instructions

Minimum requirements for prescriptive HVAC installation compliance can be found in Building Energy Efficiency Standards Section 180.2(b). Completing these documents will require that you have the Reference Appendices for the 2025 Building Energy Efficiency Standards. This document contains the Joint Appendices which are used to determine climate zone and to complete the section for opaque surfaces. When the term LMCI is used it means the LMCI-MCH-01-H.

Instructions for sections with column numbers and row numbers are given separately.

#### **Section A. General Information**

- 1. This field is filled out automatically. It is referenced from the Certificate of Compliance (LMCC), which must be completed prior to this document.
- 2. This field is filled out automatically. It is referenced from the Certificate of Compliance (LMCC), which must be completed prior to this document.
- 3. This field is filled out automatically. It is referenced from the Certificate of Compliance (LMCC), which must be completed prior to this document. When the project scope includes an addition to an existing building, the value is equal to the sum of the existing conditioned floor area plus the conditioned floor area of the addition. The default value from the LMCC may be overwritten in this document. Overwriting the default value will automatically flag this entry and subject it to additional scrutiny by QA and enforcement personnel.
- 4. This field is filled out automatically. It is referenced from the Certificate of Compliance (LMCC), which must be completed prior to this document. This value may be overwritten in this document but valid discrepancies with the LMCC are uncommon. Overwriting the default value will automatically flag this entry and subject it to additional scrutiny by QA and enforcement personnel.
- 5. This field is filled out automatically. It is referenced from the Certificate of Compliance (LMCC), which must be completed prior to this document.
- 6. Oversized equipment can result in reduced efficiency and capacity. Entirely new systems (see definition in Section 9.6.9 of the RCM) must be properly sized to match the heating and cooling load of the space that it serves. To do this, heating and cooling load calculations must be performed using an approved calculation methodology. These are listed here. Select the load calculation methodology used for this dwelling unit. If the project consists of a partial replacement of equipment or ducts (change-out) then load calculations are not required. Select N/A. Load calculations are always recommended, especially if the loads of the house have been changed since the original equipment has been installed (reduced via weatherization, other improvements).
- 7. Enter the Outdoor Design Condition Source (See Section 150.0(h)2), user select from the list.
- 8. Enter the Cooling Outdoor Design Temperature Selected (°F) for the dwelling unit described by this document.
- 9. Enter the Heating Outdoor Design Temperature Selected (°F) for the dwelling unit described by this document.
- 10. Enter the total sensible cooling load for the dwelling unit described by this document. For projects involving dwelling units with more than one system, this will be a sum of the loads for the parts of the dwelling unit served by those systems. If the project consists of a partial replacement of equipment or ducts (change-out), then load calculations are not required. Select N/A.

CERTIFICATE OF INSTALLATION - USER INSTRUCTIONS	LMCI-MCH-01-E
Space Conditioning Systems Ducts and Fans - MCH-01	(Page 2 of 8)

- 11. Enter the total heating load for the dwelling unit described by this document. For projects involving dwelling units with more than one system, this will be a sum of the loads for the parts of the dwelling unit served by those systems. If the project consists of a partial replacement of equipment or ducts (change-out), then load calculations are not required. Select N/A.
- 12. Enter the number of bedrooms in the dwelling unit.

### Section B. Space Conditioning (SC) System Information

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CERTIFICATE OF INSTALLATION - USER INSTRUCTIONS	LMCI-MCH-01-E
Space Conditioning Systems Ducts and Fans - MCH-01	(Page 3 of 8)

- 8. This field is filled out automatically. It is referenced from the Certificate of Compliance (LMCC), which must be completed prior to this document. This value may be overwritten in this document but valid discrepancies with the LMCC are uncommon. Overwriting the default value will automatically flag this entry and subject it to additional scrutiny by QA and enforcement personnel. Revising the LMCC to match is recommended and may be required.
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- 10. This field is filled out automatically based on the entries in the previous columns.

## Section C. Space Conditioning (SC) System Alterations Compliance Information

- 1. This field is filled out automatically. It is referenced from the previous section.
- 2. This field is filled out automatically. It is referenced from the previous section.
- 3. This field is filled out automatically. It is referenced from the Certificate of Compliance (LMCC), which must be completed prior to this document. This value may be overwritten in this document but valid discrepancies with the LMCC are uncommon. Overwriting the default value will automatically flag this entry and subject it to additional scrutiny by QA and enforcement personnel. Revising the LMCC to match is recommended and may be required.
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CERTIFICATE OF INSTALLATION - USER INSTRUCTIONS	LMCI-MCH-01-E
Space Conditioning Systems Ducts and Fans - MCH-01	(Page 4 of 8)

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- 11. This field is filled out automatically. It is calculated based on entries in previous columns.
- 12. If the space conditioning system is a multiple-split system, then enter the total number of indoor units (ducted and ductless) connected to the outdoor unit. If the system is a type that does not have an outdoor unit, such as a heating-only type that uses only a furnace air-handling unit, enter 1 for the number of indoor units (The furnace air-handling unit is an indoor unit).
- 13. If the space conditioning system is a multiple-split system, then enter the number of ducted indoor units (AHU) connected to the outdoor unit. If the system is a type that does not have an outdoor unit, such as a heating-only type that uses only a furnace air-handling unit, enter 1 for the number of indoor units (The furnace air-handling unit is an indoor unit).
- 14. If the indoor unit is used to bring outdoor air into the dwelling, the system may be used to comply with the IAQ mechanical ventilation requirements. This is called central fan integrated ventilation (CFI). Select CFI System if the system is used to provide IAQ ventilation.

# Section D. Installed Heating Equipment Information

- 1. This field is filled out automatically. It is referenced from a previous section.
- 2. This field is filled out automatically. It is referenced from a previous section.
- 3. This field is filled out automatically. It is referenced from a previous section
- 4. Enter the certified heating efficiency of the *installed* equipment. This value is verified against the minimum value shown in Section C. The installed efficiency must be greater than or equal to the required minimum efficiency.
- 5. Enter the name of the *installed* Heating Unit Manufacturer as shown on the equipment nameplate.
- 6. Enter the name of the installed Heating Unit Model Number as shown on the equipment nameplate.

CERTIFICATE OF INSTALLATION - USER INSTRUCTIONS	LMCI-MCH-01-E
Space Conditioning Systems Ducts and Fans - MCH-01	(Page 5 of 8)

- 7. Enter the name of the *installed* Heating Unit Serial number as shown on the equipment nameplate.
- 8. Enter the rated heating capacity (output) of the *installed* Heating Unit in BTUs per hour.
- 9. Enter text to provide a name for multi-split indoor units if prompted to do so, otherwise the field is filled out automatically.
- 10. Select the description that best describes the distribution system if prompted to do so (allowed values are 1:[Ductless] 2:[Ducted >10ft length] 3:[Ducted ≤10ft length], otherwise the field is filled out automatically.

### **Section E. Installed Cooling Equipment Information:**

- 1. This field is filled out automatically. It is referenced from a previous section.
- 2. This field is filled out automatically. It is referenced from a previous section.
- 3. This field is filled out automatically. It is referenced from Section C.
- 4. Enter the certified cooling efficiency of the *installed* equipment that corresponds to the type shown in the previous column. This value is verified against the minimum value shown in Section C. The installed efficiency must be greater than or equal to the required minimum efficiency.
- 5. Enter the name of the *installed* Condenser or Package Unit Manufacturer as shown on the equipment nameplate.
- 6. Enter the name of the *installed* Condenser or Package Unit Model Number as shown on the equipment nameplate.
- 7. Enter the name of the *installed* Condenser or Package Unit Serial Number as shown on the equipment nameplate.
- 8. Enter the sensible cooling capacity at design conditions of the *installed* cooling system in BTUs per hour.
- 9. Enter the *installed* Condenser Nominal Cooling Capacity in tons. Note that this is based on the condenser, not the coil or air handler. This can usually be determined by the condenser model number.

# Section F. Extension of Existing Duct System, Greater Than 25 Feet

- 1. This field is filled out automatically. It is referenced from a previous section.
- 2. This field is filled out automatically. It is referenced from a previous section.
- 3. Enter a brief name or description of the indoor unit area served. Examples: Master Bedroom, Dining Room, Living Room, etc.
- 4. If any lengths of new ducts were installed, answer yes, otherwise if new ducts were not installed, answer no.
- 5. This field is filled out automatically based on values referenced from other sections.
- 6. Select the choice that best describes the predominant location of the supply ducts for this system
- 7. Enter the R-value of the *installed* supply ducts. This value is verified against the minimum value required by the standards. The installed R-value must be greater than or equal to the required minimum R-value.
- 8. Select the choice that best describes the predominant location of the return ducts for this system
- 9. Enter the R-value of the installed return ducts. This value is verified against the minimum value required by the standards. The installed R-value must be greater than or equal to the required minimum R-value
- 10. The duct system needs to meet minimum R-6 requirement except for portions of ducts located in conditioned space. Duct systems that are entirely in conditioned space can be uninsulated, subject to ECC verification. If the system is of a type that can use one of the approved

CERTIFICATE OF INSTALLATION - USER INSTRUCTIONS	LMCI-MCH-01-E
Space Conditioning Systems Ducts and Fans - MCH-01	(Page 6 of 8)

protocols for testing the airflow rate, then enter yes. Otherwise enter no. Most ducted split systems and package systems are of the type that minimum airflow can be verified using an approved measurement procedure. Examples of systems that do not meet this description are ductless systems. A "No" response here may subject the project to additional scrutiny by enforcement personnel. Note: that the protocol in RA3.3.3.1.5 (Alternative to Compliance with Minimum System Airflow Requirements for Altered Systems) is not one of the protocols that is allowed to be used to justify a "yes" to this question.

11. Enter the indoor unit nominal cooling capacity (tons) if the indoor unit is a multiple-split system type, otherwise this field is not needed.

# **G. Installed Duct System information**

- 1. This field is filled out automatically. It is referenced from the same row and column in the previous sections.
- 2. This field is filled out automatically. It is referenced from the same row and column in the previous sections.
- 3. Enter a brief name or description of the indoor unit area served. Examples: Master Bedroom, Dining Room, Living Room, etc..
- 4. Enter the description of the total combined length of the supply and return ducts on this indoor unit. The possible choices are: >10ft length, and ≤10ft length.
- 5. This field is filled out automatically. This is the minimum R-value for new ducts in this climate zone.
- 6. Select the choice that best describes the predominant location of the supply ducts for this system.
- 7. Enter the R-value of the *installed* supply ducts. This value is verified against the minimum value in G05. The installed R-value must be greater than or equal to the minimum R-value.
- 8. Select the choice that best describes the predominant location of the return ducts for this system.
- 9. Enter the R-value of the *installed* return ducts. This value is verified against the minimum value shown in Section C. The installed R-value must be greater than or equal to the required minimum R-value.
- 10. The duct system needs to meet minimum R-6 requirement except for portions of ducts located in conditioned space. Duct systems that are entirely in conditioned space can be uninsulated, subject to ECC verification.
- 11. Pick the appropriate choice. Refer to section 160.3(b)5L of the 2025 Building Energy Efficiency Standards, and Chapter 11 of the 2025 Nonresidential Compliance Manual for more information.
- 12. Specify the number of air filter devices installed on this indoor unit. Air filter devices installed in completely new systems must be properly sized, as documented in the next section. The value entered here will determine the number of rows needed in the following section.
- 13. If the system is of a type that can use one of the approved protocols for testing the airflow rate, then enter yes. Otherwise enter no. Most ducted split systems and package systems are of the type that minimum airflow can be verified using an approved measurement procedure. Examples of systems that do not meet this description are ductless systems. A "No" response here may subject the project to additional scrutiny by enforcement personnel. Note: that the protocol in RA3.3.3.1.5 (Alternative to Compliance with Minimum System Airflow Requirements for Altered Systems) is not one of the protocols that is allowed to be used to justify a "yes" to this question.
- 14. If the system is of a type that can use one of the approved protocols for testing the fan efficacy, then enter yes. Otherwise enter no.
- 15. Enter the indoor unit cooling capacity if the indoor unit is a multiple-split system type, otherwise this field is not needed.

CERTIFICATE OF INSTALLATION - USER INSTRUCTIONS	LMCI-MCH-01-E
Space Conditioning Systems Ducts and Fans - MCH-01	(Page 7 of 8)

#### Section H. Installed Air Filter Device Information

- 1. This field is filled out automatically. It is referenced from the same row and column in the previous sections.
- 2. This field is filled out automatically. It is referenced from the same row and column in the previous sections.
- 3. This field is filled out automatically. It is referenced from the same row and column in the previous sections.
- 4. Enter a descriptive name of each air filter device so that it may be distinguished from others in the same system. Examples: FG1, filter2, etc.
- 5. Select the appropriate type of filter device from the list.
- 6. Enter the design flow in CFM of the filter device. The total for all filter devices in a single system should be greater than or equal to the total system design CFM in cooling mode (or heating mode for heat-only systems).
- 7. Enter the nominal depth of the filter in inches. This is the dimension that is parallel to the airflow. many filters available for sale are 1-inch depth. The 2025 standards encourage use of 2-inch depth filters.
- 8. Enter the nominal length of the filter. for example, if the filter is 20" x 30", enter 30.
- 9. Enter the nominal width of the filter, for example, if the filter is a 20" x 30", enter 20.
- 10. This field is calculated automatically based on your entries in 8 and 9.
- 11. This value is calculated automatically for 1-inch depth filters. 2-inch depth or greater filters may use a value determined by the system designer.
- 12. This field determines whether a 1-inch depth filter complies with the sizing requirements in section 160.0(b)1. A 2-inch depth or greater filter may use the face area determined by the system designer, however most systems have to meet airflow rate and fan efficacy requirements.
- 13. Enter the design static pressure drop determined by the system designer if 2-inch or greater filters are used. For 1-inch depth filters, the maximum pressure drop is mandatory 0.1 inch W.C.. Filters installed in the filter grille/rack must be capable of meeting this maximum pressure drop at the design airflow rate, as shown on the manufacturer's filter label. Not accounting for higher filter pressure drops will result in poor system airflow characteristics, reduced capacity and reduced efficiency. This may result in not passing field verification.

# **Section I. Air Filter Device Requirements**

This table is a list of requirements for air filter devices.

# **Section J. ECC Verification Requirements**

- 1. This field is filled out automatically. It references previous sections in this document.
- 2. This field is filled out automatically. It references previous sections in this document.
- 3. This field is filled out automatically. It references previous sections in this document.
- 4. If applicable, select from the available exemptions listed. Exemptions will be flagged and may subject the system to additional enforcement scrutiny.
- 5. This field is filled out automatically. It is calculated based on data from the LMCC and from previous sections in this document.
- 6. This field is filled out automatically. It is calculated based on data from the LMCC and from previous sections in this document.
- 7. This field is filled out automatically. It is calculated based on data from the LMCC and from previous sections in this document.

CERTIFICATE OF INSTALLATION - USER INSTRUCTIONS	LMCI-MCH-01-E
Space Conditioning Systems Ducts and Fans - MCH-01	(Page 8 of 8)

- 8. This field is filled out automatically. It is calculated based on data from the LMCC and from previous sections in this document.
- 9. This field is filled out automatically. It is calculated based on data from the LMCC and from previous sections in this document.

### **Section K. ECC Verification Requirements for Space Conditioning Equipment**

- 1. This field is filled out automatically. It is calculated based on data from the LMCC and from previous sections in this document.
- 2. This field is filled out automatically. It is calculated based on data from the LMCC and from previous sections in this document.
- 3. This field is filled out automatically. It is calculated based on data from the LMCC and from previous sections in this document.

# Section L. Space Conditioning Systems, Ducts and Fans – Mandatory Requirements and Additional Measures

This table is a list of mandatory measures and additional requirements for space conditioning systems, ducts and fans.

### Section M. Test of Defrost Delay Timer Setting (Section 160.3(b)7)

This table is certification requirements for Test of Defrost Delay Timer Setting

#### **Documentation Declaration Statements**

- 1. The person who prepared the LMCI will sign and complete the fields for their name, company (if applicable), address, phone number, certification information (if applicable), date and signature.
- 2. The person who is assuming responsibility for the project being built to comply with Title 24, Part 6, will complete the fields for their name, company (if applicable), address, phone number, license number (if applicable), date and signature.