



SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

CERTIFICATE OF INSTALLATION

Note: This table completed by HERS Registry.

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

A. Ducted Cooling System Information

01	Space Conditioning System Identification or Name	
02	Space Conditioning System Description of Area Served	
03	Indoor Unit Name	
04	System Installation Type	
05	Nominal Cooling Capacity (tons)	
06	Condenser Speed Type	
07	Cooling System Zonal Control Type	
08	Central Fan Integrated (CFI) Ventilation System Status	
09	System Bypass Duct Status	
10	Date of System Airflow Rate Measurement	
11	Airflow Rate Protocol Utilized	
12	Central Fan Ventilation Cooling System Status	

B. Hole for the Placement of a Static Pressure Probe (HSPP), and Permanently Installed Static Pressure Probe (PSPP) in the Supply Plenum

Procedures for installing HSPP or PSPP are specified in RA3.3.1.1.

01	Method Used to Demonstrate Compliance with the HSPP/PSPP Requirement	
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C. Airflow Rate Measurement Apparatus and Procedure Information

Instrument Specifications are given in RA3.3.1.1, and system airflow rate measurement apparatus information is given in RA3.3.2.

01	Airflow Rate Measurement Type Used for this Airflow Rate Verification	
02	Manufacturer of Airflow Measurement Apparatus	
03	Model number of Airflow Measurement Apparatus	
04	Certification Status of the Airflow Measurement Apparatus Accuracy	

MCH-23b Forced Air System Airflow Rate Measurement – Newly Installed Zoned Single-Speed Compressor Systems

D. Forced Air System Airflow Rate Measurement – All Zones Calling

The procedures for System Airflow Rate Verification are specified in Reference Residential Appendix RA3.3.

01	Required All Zones Calling Minimum System Airflow Rate (cfm/ton)	
02	Required All Zones Calling Minimum System Airflow Target (cfm)	
03	Actual System Airflow Rate Measurement (cfm)	
04	Compliance Statement:	



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E. Forced Air System Airflow Rate Measurement – All Other Zonal Control Modes

The procedures for System Airflow Rate Verification are specified in Reference Residential Appendix RA3.3. For compliance with verification in all zonal control modes, it is sufficient to verify airflow rate for operation of each individual zone when the individual zone is the sole zone calling for conditioning. It is not necessary to verify airflow rate for combinations of 2 or more zones that are less than all zones calling (e.g., 2 out of three zones calling).

Table with 4 columns: 01 (Number of Independently Controlled Zones), 02 (Required Minimum Cooling System Airflow Rate), 03 (Required Minimum Airflow in all Zonal Control Modes), and 04-07 (Zone Name, Zone Description, Measured Airflow with All Other Zones Off (CFM), Zone Compliance Status). Includes a Compliance Statement row at the bottom.

F. Additional Requirements

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

Table with 2 columns: ID (01-08) and Description of requirements such as air filters, measurement apparatus calibration, bypass duct inspection, register status, fan speed, fresh air duct, simultaneous measurements, and compressor speed verification.



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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Table with 2 columns: Documentation Author Name, Documentation Author Signature, Documentation Author Company Name, Date Signed, Address, CEA/HERS Certification Identification (If applicable), City/State/Zip, Phone.

RESPONSIBLE PERSON'S DECLARATION STATEMENT

- 2. 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...
3. The constructed or installed features, materials, components or manufactured devices...
4. I understand that a HERS rater will check the installation to verify compliance...
5. I understand that a registered copy of this certificate of installation shall be posted...
6. I understand that a registered copy of this certificate of installation is required to be included with the documentation...

Table with 2 columns: Responsible Builder/Installer Name, Responsible Builder/Installer Signature, Company Name, Position With Company (Title), Address, CSLB License, City/State/Zip, Phone, Date Signed, Third Party Quality Control Program (TPQCP) Status, Name of TPQCP (if applicable).

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

CERTIFICATE OF INSTALLATION – USER INSTRUCTIONS	LMCI-MCH-23-H
Space Conditioning System Airflow Rate	(Page 1 of 3)

LMCI-MCH-23b-H User Instructions

Section A. Ducted Cooling System Information

- 1 System Identification or Name: This field is filled out automatically. It is referenced from the LMCI-MCH-01, which must be completed prior to this document.
- 2 System Location or Area Served: This field is filled out automatically. It is referenced from the LMCI-MCH-01, which must be completed prior to this document.
- 3 Indoor Unit Name: This field is filled out automatically. It is referenced from the LMCI-MCH-01, which must be completed prior to this document.
- 4 System Installation Type: Select the appropriate System Installation Type from the following choices:
 - a. New: Use this choice for newly constructed buildings, additions with all-new systems dedicated to the addition, or new systems installed in existing homes where the equipment and ducts are all newly installed (aka, "Cut-in").
 - b. Replacement: Use this choice if the system is a complete replacement space-conditioning system installed as part of an alteration, and includes all the system heating or cooling equipment plus a replacement duct system (180.2(b)2Aii) where the ducts are at least 75% or more newly installed duct material (up to 25% of the finished system may consist of reused parts from the dwelling unit's previously existing duct system, such as registers, grilles, boots, air handler, coil, plenums, duct material); plus a replacement air handler.
 - c. Alteration: Use this choice for existing buildings where any of the following are newly installed or replaced as part of the project and the system does not meet one of the other compliance categories above.:
 - i. 40 feet or more of space-conditioning system ducts are installed in unconditioned space or indirectly conditioned space.
 - ii. Air conditioning or heat pump condenser
 - iii. Heating or cooling coil
 - iv. Air handler (e.g., furnace, fan coil, package unit)
- 5 Nominal Cooling Capacity (tons): This field is filled out automatically. It is referenced from the LMCI-MCH-01, which must be completed prior to this document. If the number of indoor units connected to the outdoor unit is equal to one or the system is a packaged system then this field is equal to the nominal cooling capacity of the condenser. If the number of indoor units connected to the outdoor unit is greater than one this field is equal to the indoor unit nominal cooling capacity.
- 6 Condenser Speed Type: This field is filled out automatically. It is referenced from the LMCI-MCH-01, which must be completed prior to this document.
- 7 Cooling System Zonal Control Type: This field is filled out automatically. It is referenced from the LMCI-MCH-01, which must be completed prior to this document.
- 8 Central Fan Integrated (CFI) Ventilation System Status: If the system has Central Fan Integrated System, then select "CFI System", otherwise select "Not a CFI system".
- 9 System Bypass Duct Status: This field is filled out automatically. It is referenced from the LMCI-MCH-01, which must be completed prior to this document.
- 10 Date of System Airflow Rate Measurement: Enter the date that the airflow test was performed.
- 11 Airflow Rate Protocol Utilized: If the system installation type is "New" or "Replacement" then only the RA3.3 airflow methods may be used. If the system installation type is "Alteration", the RA3.3 airflow methods may be used, but the Alternative to Compliance with Minimum System Airflow Requirements

CERTIFICATE OF INSTALLATION – USER INSTRUCTIONS	LMCI-MCH-23-H
Space Conditioning System Airflow Rate	(Page 2 of 3)

(“Best I Can Do” Airflow) is an option for existing systems that may require substantial modification to improve the airflow.

- 12 Central Fan Ventilation Cooling System (CFVCS) Status: This field is filled out automatically. It is referenced from the LMCI-MCH-01, which must be completed prior to this document.

Section B. Hole for the Placement of a Static Pressure Probe (HSPP), and Permanently Installed Static Pressure Probe (PSPP) in the Supply Plenum

- 1 A hole for a static pressure probe (HSPP) or a permanent static pressure probe (PSPP) is required when system airflow verification is required, whether the airflow test method used requires one or not. Select the appropriate choice from the following options using a dropdown box, the Static Pressure Measurement Method:
 - a. If an Hole Static Pressure Probe is installed then select “HSPP Installed”
 - b. If a Permanent Static Pressure Probe is installed then select “PSPP Installed”
 - c. If the system is configured such that an HSPP nor PSPP can be installed, an alternate location that provides access for making supply plenum pressure measurement may be used. Select “An alternative location has been provided and clearly labeled.”
 - d. If the system is such that an HSPP or PSPP is not applicable, select “HSPP/PSPP are not applicable to this system”.

Section C. Airflow Rate Measurement Apparatus and Procedure Information

1. Airflow Rate Measurement Type Used for this Airflow Rate Verification: Select the appropriate airflow test procedure from the following options for the method used to determine actual fan airflow:
 - a. Diagnostic Fan Flow Using Fan Flow Meter (aka Plenum Pressure Matching) according to the procedures in RA3.3.3.1.1
 - b. Diagnostic Fan Flow Using Flow Grid Measurement according to the procedures in RA3.3.3.1.2
 - c. Diagnostic Fan Flow Using Powered Flow Capture Hood according to the procedures in RA3.3.3.1.3
 - d. Diagnostic Fan Flow Using Traditional Flow Capture Hood according to the procedures in RA3.3.3.1.4
2. Manufacturer of Airflow Measurement Apparatus: Enter the name of the manufacturer of the airflow measurement tool used to measure the airflow for this test.
3. Model number of Airflow Measurement Apparatus: Enter the model number of the airflow measurement tool used to measure the airflow for this test.
4. Certification Status of the Airflow Measurement Apparatus Accuracy: The measurement apparatus used to perform an airflow verification measurements must appear on the CEC list of approved devices found at [Airflow Measurement Apparatus](#), if this is true, select “Certified”, otherwise select “Not Certified”. The latter choice will not allow the system to pass until a certified device is used.
5. (not visible to user)

Section D. Forced Air System Airflow Rate Measurement – All Zones Calling

1. Required All Zones Calling Minimum System Airflow Rate (cfm/ton): This field is filled automatically. The target is based on whether the system is new or altered and whether a value was specified on the LMCI-MCH-01.
2. Required All Zones Calling Minimum System Airflow target (cfm): This field is calculated automatically. It is the product of the minimum airflow rate per ton and the tonnage of the system condenser.

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Space Conditioning System Airflow Rate	(Page 3 of 3)

3. Actual System Airflow Rate Measurement (cfm): Enter the actual tested value of the airflow measured using the apparatus specified above.
4. Compliance Statement: This field is filled automatically. Compliance requires that the measured airflow meets the minimum airflow target.

Section E. Forced Air System Airflow Rate Measurement – All Other Zonal Control Modes

1. Number of Independently Controlled Zones: Enter the number of zones in this system that are independently controlled, i.e., that can call for cooling while other zones can be fully or mostly shut off from system airflow. This usually corresponds to the number of thermostats or zone sensors.
2. Required Minimum Airflow in all Zonal Control Modes (cfm): This field is filled out automatically. If a value other than 350 cfm was claimed in the performance calculations, it will be referenced from the LMCC, otherwise the target is 350 cfm.
3. Zone Name: Enter a unique name for each zone on this system. Examples: Zone 1, Z1, Zone A, etc.
4. Zone Description: Enter a brief description of each zone that is detailed enough allow someone to distinguish it from the others in the field. Examples: upstairs, first floor, east wing, bedrooms only, (list rooms served), etc.
5. Measured Airflow with All Other Zones Off: This test must be performed with only one independently controlled zone calling for cooling (Note: if fan watt verification is required, it must be performed simultaneously to the corresponding airflow from this test). All other zones must not be calling during this test. The zone dampers for the other zones must be in their normal closed position. Enter the airflow value measured for the zone that is calling. This test must be performed for each and every independently controlled zone.
6. Zone Compliance Status: This field is filled out automatically. The result is based on whether or not the actual airflow meets the required airflow for this zone.
7. Compliance Statement: This field is filled out automatically. The result is based on whether or not the actual airflow meets the required airflow for all zones

Section F. Additional Requirements

1. This field must be a true statement (or not applicable) for the system to comply.
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6. This field must be a true statement (or not applicable) for the system to comply.
7. This field must be a true statement (or not applicable) for the system to comply.
8. This field must be a true statement (or not applicable) for the system to comply.

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.