

CERTIFICATE OF INSTALLATION

CF2R-MCH-30-H

Central fan ventilation cooling systems

(Page 1 of 2)

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

Central Fan Ventilation Cooling System

When the Certificate of Compliance indicates a Central Fan Ventilation Cooling system is installed, the procedures for measuring the cooling coil airflow must be performed as specified in Reference Residential Appendix RA3.3.

1.	System Name or Identification/Tag	
2.	System Location or Area Served	
3.	Design Meets Duct Leakage requirements of the MECH-20 or MECH-21	
4.	Design Meets Fan Watt Draw Requirements of the MECH-22	
5.	Central Fan Ventilation System's controls include an indoor thermostat	
6.	Central Fan Ventilation System's controls include an outdoor temperature sensor to initiate and terminate night ventilation operation	
7.	Central Fan Ventilation System's controls include an air handler temperature sensor to verify damper position	

* If the system uses outside air (OA) ducts, they shall **not be sealed/taped off** during duct leakage testing. All outside air ducts must be electronically controlled and use motorized dampers that open only when OA ventilation is required to meet ASHRAE Standard 62.2, and close when OA ventilation is not required.

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Name:	Signature:	
Company:	Date:	
Address:	CEA or CEPE or HERS Certification # If applicable:	
City/State/Zip:	Phone:	

RESPONSIBLE PERSON'S DECLARATION STATEMENT

- I certify under penalty of perjury, under the laws of the State of California, the information provided on this Certificate of Installation is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for construction, or an authorized representative of the person responsible for construction (responsible person).
- I certify that the installed features, materials, components, or manufactured devices identified on this certificate (the installation) conforms to all applicable codes and regulations, and the installation is consistent with the plans and specifications approved by the enforcement agency.
- I understand that a HERS rater will check the installation to verify compliance, and that if such checking identifies defects, I am required to take corrective action at my expense. I understand that Energy Commission and HERS provider representatives will also perform quality assurance checking of installations, including those approved as part of a sample group but not checked by a HERS rater, and if those installations fail to meet the requirements of such quality assurance checking, the required corrective action and additional checking/testing of other installations in that HERS sample group will be performed at my expense.
- I reviewed a copy of the Certificate of Compliance (CF1R) approved by the enforcement agency that identifies the specific requirements for the installation. I certify that the requirements detailed on the CF1R that apply to the installation have been met.
- I will ensure that a completed, signed 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. I understand that a signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.** I will ensure that all Certificates of Installation are registered with a HERS Provider Data Registry for projects that require HERS verification.

Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)

Responsible Person's Name:	Responsible Person's Signature:
----------------------------	---------------------------------

CERTIFICATE OF INSTALLATION**CF2R-MCH-30-H**

Central fan ventilation cooling systems

(Page 2 of 2)

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

CSLB License:	Date Signed:	Position With Company (Title):
Is this installation monitored by a Third Party Quality Control Program (TPQCP)? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Name of TPQCP (if applicable):	

DECLARATION STATEMENT

[insert statement to the effect that signing the doc indicates compliance with the following requirements]
[insert standardized declaration statements and signature blocks insert below].

User Instructions for Completing the MECH 22:

HSPP or PSPP Hole Verification	
1.	System Name or Identification/Tag (user input text field): Provide an identification name or tag name that uniquely identifies the duct system. If there is a mechanical plan for the system, the tag name may be given on the plans.
2.	System Location or Area Served (user input text field): Provide a brief description of the area served by the duct system (e.g. upstairs; downstairs)
3.	Result Message: Passes – If HSPP or PSPP has been installed on air handler
Cooling Coil Airflow Verification	
4.	System Name or Identification/Tag (user input text field): Provide an identification name or tag name that uniquely identifies the duct system. If there is a mechanical plan for the system, the tag name may be given on the plans.
5.	System Location or Area Served (user input text field): Provide a brief description of the area served by the duct system (e.g. upstairs; downstairs)
6.	Air Conditioner Size in Tons (user input number field)
7.	Cooling System Airflow in CFM/Ton From CF-1R (Greater Than or Equal to 350 CFM/Ton) Note Value For Number Seven May Be Auto Filled From CF-1R XML Document
8.	Target Cooling Coil Airflow (Calculated Value Based on Input From #6 and Input Value #7): 1 - Cooling Coil Airflow = (#6 input) Tons x (#7 input) CFM/Ton
9.	Actual Cooling Coil Airflow (User input number from field inspection)
10.	Result Message: Passes - Actual Cooling Coil Airflow is Equal to or Greater Than Target [this message if passing cooling coil airflow test]
Fan Watt Draw Verification	
11.	System Name or Identification/Tag (user input text field): Provide an identification name or tag name that uniquely identifies the duct system. If there is a mechanical plan for the system, the tag name may be given on the plans.
12.	System Location or Area Served (user input text field): Provide a brief description of the area served by the duct system (e.g. upstairs; downstairs)
13.	Actual Cooling Coil Airflow (User input number from field inspection)
14.	Cooling System Fan Watt Draw Airflow in Watts/CFM From CF-1R (Less Than or Equal to 0.58 Watts/CFM) Note Value For Number Seven May Be Auto Filled From CF-1R XML Document
15.	Target Cooling System Fan Watt Draw (Calculated Value Based on Input From #13 and Input Value #14): 1 – Cooling Fan Watt Draw = (#13 input) Tons x (#14 input) CFM/Ton
16.	Actual Cooling System Fan Watt Draw (User input number from field inspection)
17.	Result Message: Passes - Actual Cooling System Fan Watt Draw Less Than or Equal Target [this message if passing cooling coil airflow test]

Standards Language

150.0 MANDATORY FEATURES AND DEVICES

150.0(M)

- 13. Duct System Sizing and Air Filter Grille Sizing.** Space conditioning systems that utilize forced air ducts to supply cooling to an occupiable space shall:
 - A. Have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum downstream of the air conditioning evaporator coil. The size, location, and labeling of the HSPP or PSPP shall conform to the requirements specified in Reference Residential Appendix RA3.3.1.1 as confirmed by field verification and diagnostic testing; and

EXCEPTION to 150.0(m)13A: Systems that cannot conform to the specifications for hole location in Reference Residential Appendix Figure RA3.3-1 shall not be required to provide holes as described in Figure RA3.3-1.

- B. Demonstrate, in every control mode, airflow greater than 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy less than or equal to 0.58 W/CFM as confirmed by field verification and diagnostic testing in accordance with the procedures given in Reference Residential Appendix RA3.3.

ALTERNATIVE to Section 150.0(m)13B: Standard ducted systems (systems without zoning dampers) may comply by meeting the applicable requirements in TABLE 150.0-C or TABLE 150.0-D as confirmed by field verification and diagnostic testing in accordance with the procedures in Reference Residential Appendix Sections RA3.1.4.4 and RA3.1.4.5. The design clean-filter pressure drop requirements of Section 150.0(m)12C for the system air filter device(s) shall conform to the requirements given in TABLE 150.0-C and 150.0-D.

EXCEPTION to 150.0(m)13B: Multi-speed compressor systems or variable speed compressor systems shall verify air flow (cfm/ton) and fan efficacy (Watt/cfm) for system operation at the maximum compressor speed and the maximum air handler fan speed.

- 15. Zonally Controlled Central Forced Air Systems.** Zonally controlled central forced air cooling systems shall be capable of simultaneously delivering, in every zonal control mode, an airflow from the dwelling, through the air handler fan and delivered to the dwelling, of greater than 350 CFM per ton of nominal cooling capacity, and operating at an air-handling unit fan efficacy of less than or equal to 0.58 W/CFM as confirmed by field verification and diagnostic testing in accordance with the procedures specified in Reference Residential Appendix RA3.3.

EXCEPTION to 150.0(m)15: Multi-speed compressor systems or variable speed compressor systems shall demonstrate compliance for airflow (cfm/ton) and fan efficacy (Watt/cfm) by operating the system at maximum compressor capacity and maximum system fan speed and with all zones calling for conditioning