CALIFORNIA ENERGY COMMISSION

CEC-NRCI-MCH-22-F

CERTIFICATE OF INSTALLATION

This Certificate of Installation documents the installation of electrical power distribution system features, materials, components, and manufactured devices required to demonstrate compliance with Title 24, Part 6 per §10-103(a)3 for nonresidential, hotel/motel and high-rise residential occupancies.

Field Name	Data Entry	Field Name	Data Entry
Project Name:		Enforcement Agency:	
Dwelling Address:		Permit Number:	
City and Zip Code:		Date Permit Issued:	

A. Ducted Cooling System Information

Field	Field Name	Data Entry
01	System Identification or Name	
02	System Location or Area Served	
03	Indoor Unit Name or Description of Area Served	
04	System Installation Type	
05	Nominal Cooling Capacity (tons) of Condenser	
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. Fan Watt Measurement Apparatus and Procedure Information

Instrument Specifications are given in RA3.3.1, and system fan watt measurement apparatus information is given in RA3.3.2.2.

Field	Field Name	Data Entry
01	Fan Watt Verification Device Used	

MCH-22d Forced Air System Fan Efficacy Measurement – Newly Installed Zoned Single-Speed Compressor Systems with Central Fan Ventilation Cooling

C. Forced Air System Fan Efficacy Measurement – All Zones Calling

The procedures for System Fan Watt Verification are specified in Reference Residential Appendix RA3.3.

Field	Field Name	Data Entry
01	Actual Tested Watts	
02	Actual Tested Airflow from MCH-23 (cfm)	
03	Required Fan Efficacy (watts/cfm)	
04	Actual Fan Efficacy (watts/cfm)	
05	Compliance Statement:	

D. Forced Air System Fan Efficacy Measurement – All Zonal Control Modes

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

Field	Field Name	Data Entry
01	Number of Independently Controlled Zones (i.e., number of thermostats or temperature sensors that independently control one or more dampers.)	
02	Required Fan Efficacy in All Zonal Control Modes(Watt/cfm)	

03	04	05	06	07	08
Zone Name	Zone Description	Measured Watt Draw with all Other Zones Off	Measured Airflow with all Other Zones Off (cfm)	Calculated Fan Efficacy (Watts/cfm)	Zone Compliance Status

09	Compliance Statement:	

E. Central Fan Ventilation Cooling System Fan Efficacy Measurement

The procedures for Central Fan Ventilation Cooling System Fan Watt Verification are specified in Reference Residential Appendix RA3.3.4.

Field	Field Name	Data Entry
01	Actual Tested Watts	
02	Actual Tested Ventilation Airflow from MCH-23 (cfm)	
03	Required Fan Efficacy (watts/cfm)	
04	Actual Fan Efficacy (watts/cfm)	
05	Compliance Statement:	

F. Additional Requirements

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

Field	Field Name
01	All registers were fully open during the diagnostic test.
02	System fan was set at maximum speed during the diagnostic test.
03	If fresh air duct is part of the HVAC system it was not closed during the diagnostic test.
04	Airflow rate and fan watt draw shall be simultaneous measurements when used to calculate the fan efficacy tested value.
05	Multi-speed compressor space cooling systems or variable speed compressor systems shall verify airflow (cfm/ton) and fan efficacy (watt/cfm) with system operating in cooling mode at the maximum compressor speed and the maximum air handler fan speed.
06	Zoned cooling air distribution systems with single speed compressors shall meet both the airflow (cfm/ton) and fan efficacy (watt/cfm) criteria in every zonal control mode.
07	Portable watt meters used for measurements of air-handler watt draws shall be true power measurement systems (i.e., sensor plus data acquisition system) having an accuracy of ± 2% of reading or ± 10 watts whichever is greater.

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Field Name	Entry
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 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 (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
    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 plans and specifications approved by the enforcement agency.
    4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
    5. I understand 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, and I will take the necessary steps to accomplish this requirement.
    6. I understand that a completed signed 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 accomplish this requirement.

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Field Name	Entry
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