

# SPACE CONDITIONING SYSTEM AIRFLOW RATE



CALIFORNIA ENERGY COMMISSION

CEC-NRCI-MCH-23-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	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	

## SPACE CONDITIONING SYSTEM AIRFLOW RATE



CALIFORNIA ENERGY COMMISSION

CEC-NRCI-MCH-23-F

### 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.

Field	Field Name	Data Entry
01	Method Used to Demonstrate Compliance with the HSPP/PSPP Requirement	

### 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.

Field	Field Name	Data Entry
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	

## SPACE CONDITIONING SYSTEM AIRFLOW RATE



CALIFORNIA ENERGY COMMISSION

CEC-NRCI-MCH-23-F

### MCH-23e Forced Air System Airflow Rate Measurement – Newly Installed Non-Zoned Systems or Zoned Multi-Speed Compressor with Central Fan Ventilation Cooling System

#### D. Forced Air System Airflow Rate Measurement

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

Field	Field Name	Data Entry
01	Required Minimum System Airflow Rate (cfm/ton)	
02	Required Minimum System Airflow Target (cfm)	
03	Actual System Airflow Rate Measurement (cfm)	
04	Compliance Statement:	

#### E. Central Fan Ventilation Cooling System Airflow Rate Measurement

The procedures for central fan ventilation cooling system airflow rate verification are specified in Reference Residential Appendix RA3.3.4

Field	Field Name	Data Entry
01	Required Ventilation System Airflow Rate (cfm)	
02	Actual System Ventilation Airflow Rate Measurement (cfm)	
03	Compliance Statement:	

## SPACE CONDITIONING SYSTEM AIRFLOW RATE



CALIFORNIA ENERGY COMMISSION

CEC-NRCI-MCH-23-F

### 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	Air filters that meet the applicable requirements of Standards Section 150.0(m)12 or 150.0(m)13 were properly installed in the system during system airflow rate measurement identified on this Certificate of Installation.
02	The airflow rate measurement apparatus used to perform the airflow rate measurement identified on this Certificate of Installation was calibrated in accordance with the apparatus manufacturer's specifications and conforms to the instrumentation specifications given in RA3.3.1.
03	A visual inspection shall confirm that bypass ducts that deliver conditioned supply air directly to the space conditioning system return duct airflow are not used on <u>newly constructed</u> zonally controlled systems unless the Performance Certificate of Compliance indicates an allowance for use of a bypass duct. When a bypass duct is accounted for on the Performance Certificate of Compliance, the airflow rate shall conform to the specifications listed on the Certificate of Compliance.
04	All registers were fully open during the diagnostic test.
05	System fan was set at maximum speed during the diagnostic test.
06	If fresh air duct is part of the HVAC system it was not closed during the diagnostic test.
07	Airflow rate and fan watt draw shall be simultaneous measurements when used to calculate the Fan Efficacy tested value.
08	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.

## SPACE CONDITIONING SYSTEM AIRFLOW RATE



CALIFORNIA ENERGY COMMISSION

CEC-NRCI-MCH-23-F

### 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.

## SPACE CONDITIONING SYSTEM AIRFLOW RATE



CALIFORNIA ENERGY COMMISSION

CEC-NRCI-MCH-23-F

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