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STATE OF CALIFORNIA

RETURN DUCT DESIGN AND AIR FILTER DEVICE SIZING ACCORDING TO TABLES 150.0-B OR C

CEC-CF2R-MCH-28-H (Revised 09/18) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF INSTALLATION		CF2R-MCH-28-H
Return Duct Design and Air Filter Device Sizing According to Tables 150.0-B or C		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City:	Zip Code:

A. System Information		
01	System Identification or Name	
02	System Location or Area Served	
03	Nominal Cooling Capacity (tons) of Condenser	
04	Number of Return Ducts Used for Compliance	
05	Number of Additional Return Ducts (Not Used for Compliance)	

B. One Return Duct		
01	Minimum Return Duct Diameter (inches)	
02	Installed Return Duct Diameter (inches)	
03	Minimum Total Return Filter Grille Gross Area (inch^2)	
04	Installed Total Return Filter Grille Gross Area (inch^2)	
05	Compliance Statement:	

C. Two Return Ducts		
01	Minimum Return Duct1 Diameter (inches)	
02	Installed Return Duct1 Diameter (inches)	
03	Minimum Return Duct2 Diameter (inches)	
04	Installed Return Duct2 Diameter (inches)	
05	Minimum Total Return Filter Grille Gross Area (inch^2)	
06	Installed Total Return Filter Grille Gross Area (inch^2)	
07	Compliance Statement:	

D Additional Requirements for Compliance	
01	Qualification for the Alternative to Section 150.0(m)13B requires that the ducted space conditioning system shall not use zoning dampers. Systems that use zoning dampers shall comply with the requirements of Section 150.0(m)15.
02	The return duct length for each return air filter grille shall not exceed 30 linear feet.
03	The return duct(s) shall not contain more than a total of 180° of bend.
04	If the return duct contains more than 90° of bend, one of the bends shall be a metal elbow.
05	Return grille devices shall be labeled in accordance with the requirements in section 150.0(m)12A to disclose the grille's design airflow rate and a maximum allowable clean-filter pressure drop of 12.5 Pa (0.05 inches water) for the air filter media as rated in accordance with AHRI Standard 680 for the design airflow rate for the return grille.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

E. 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	

F. Additional Return Ducts (Not Used for Compliance)	
01	02
Installed Return Duct Diameter (inches)	Installed Total Return Filter Grille Gross Area (inch^2)

RETURN DUCT DESIGN AND AIR FILTER DEVICE SIZING ACCORDING TO TABLES 150.0-B OR C

CERTIFICATE OF INSTALLATION		CF2R-MCH-28-H
Return Duct Design and Air Filter Device Sizing According to Tables 150.0-B or C		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City:	Zip Code:

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/HERS 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 HERS rater will check the installation to verify compliance and if such checking determines the installation fails to comply, I am required to offer any necessary corrective action at no charge to the building owner.
5. I will ensure 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. 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.

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:
Third Party Quality Control Program (TPQCP) Status:	Name of TPQCP (if applicable):	

CF2R-MCH-28-H User Instructions

Section A. System Information

1. System Identification or Name: This field is filled out automatically. It is referenced from the CF2R-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 CF2R-MCH-01, which must be completed prior to this document.
3. Nominal Cooling Capacity (tons) of Condenser: This field is filled out automatically. It is referenced from the CF2R-MCH-01, which must be completed prior to this document.
4. Number of Return Ducts: Select the number of return ducts from the options given in the pull down list, either one or two return ducts. Those are the only options for this compliance approach. Other configurations will require that airflow and fan watt draw be verified by diagnostic testing.

Section B. One Return Duct

1. Minimum Return Duct Diameter: This field is automatically calculated based on A03. Refer to Table 150.0-B/C.
2. Installed Return Duct Diameter: Enter the installed return duct diameter (inches).
3. Minimum Total Return Filter Grille Gross Area: This field is automatically calculated based on A03. Refer to Table 150.0-B/C.
4. Installed Total Return Filter Grille Gross Area: Enter the installed return filter grille gross area (inch^2). The area is equal to the length (inches) multiplied by the width (inches).
5. Compliance Statement: This field is automatically populated based on the inputs to rows B02 and B04. Compliance requires that the installed duct diameter meet the required duct diameter AND the installed filter grille area meet the required filter grille area.

Section C. Two Return Ducts

1. Minimum Return Duct1 Diameter: This field is automatically calculated based on A03. Refer to Table 150.0-B or C.
2. Installed Return Duct1 Diameter: Enter the diameter (inches) for the first return duct run.
3. Minimum Return Duct2 Diameter: This field is automatically calculated based on A03. Refer to Table 150.0-B or C.
4. Installed Return Duct2 Diameter: Enter the diameter (inches) for the second return duct run.
5. Minimum Total Return Filter Grille Gross Area: This field is automatically calculated based on A03. Refer to Table 150.0-B/C.
6. Installed Total Return Filter Grille Gross Area: Enter the total return filter grille gross area by summing up the two grille areas. The area of each grill is equal to the length (inches) multiplied by the width (inches).
7. Compliance Statement: This field is automatically populated based on the inputs to C02, C04 and C06. Compliance requires that the installed duct diameters meet the required duct diameters AND the total installed filter grille area meet the total required filter grille area.

Section D Additional Requirements for Compliance

1. This field must be a true statement (or not applicable) for the system to comply.
2. This field must be a true statement (or not applicable) for the system to comply.
3. This field must be a true statement (or not applicable) for the system to comply.
4. This field must be a true statement (or not applicable) for the system to comply.
5. This field must be a true statement (or not applicable) for the system to comply

Section E. 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”.