

**DOCKETED**

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**REFRIGERANT CHARGE VERIFICATION**

CEC-CF2R-MCH-25f-F (Revised 01/19)

CALIFORNIA ENERGY COMMISSION



CERTIFICATE OF INSTALLATION		CF2R-MCH-25-E
Refrigerant Charge Verification – Packaged System		(Page 1 of 3)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City:	Zip Code:

**A. System Information**

Each system requiring refrigerant charge verification will be documented on a separate certificate.

01	System Identification or Name	
02	System Location or Area Served	
03	Condenser (or package unit) Make or Brand	
04	Condenser (or package unit) Model Number	
05	Nominal Cooling Capacity (tons) of Condenser	
06	Condenser (or package unit) Serial Number	
07	Refrigerant Type	
08	Other Refrigerant Type (if applicable)	
09	Liquid Line Filter Drier Installed According to Manufacturer's Specification (if applicable)	
10	System Installation Type	
11	Fault Indicator Display (FID) Status (Note: Even systems with a FID must have refrigerant charge verified by installer)	
12	Is the system of a type that the minimum airflow can be verified using an approved measurement procedure (RA3.3 or RA3.3.3)?	
13	Is the system of a type that approved refrigerant charge verification procedures can be used to verify compliance with the refrigerant charge verification requirements when temperatures are $\geq 55^{\circ}\text{F}$ (RA3.2.2, or RA1)?	
14	Date of Refrigerant Charge Verification for this System	
15	Refrigerant Charge Verification Method Used	
16	Person who Performed the Refrigerant Charge Verification Reported on this Certificate of Installation	
17	HERS Verification Compliance Requirement Status	

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**MCH-25f - Refrigerant Charge Verification - New Package Unit With Factory Charge****B. Measurement Access Hole (MAH) Verification**

Procedures for installing MAH are specified in Reference Residential Appendix RA3.2.2.3.

01	Method Used to Demonstrate Compliance with the Measurement Access Hole (MAH) Requirement	
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**C. Minimum System Airflow Rate Verification**

Procedures for verifying minimum system airflow are specified in Reference Residential Appendix RA3.3.3.

01	Minimum Required System Airflow Rate (cfm)	
02	System Airflow Rate Verification Status	

**D. Verification of New Package Unit Factory Charge**

Note: There is no HERS verification requirement for the MCH-25f. The Enforcement Agency has responsibility for verification of the MCH-25f.

01	The responsible person's signature on this document affirms that this new package unit has correct refrigerant charge as provided by the manufacturer prior to shipment from the factory, and no modifications have been made to this packaged unit that would result in a change to the amount of refrigerant in the unit.
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CERTIFICATE OF INSTALLATION		CF2R-MCH-25-E
Refrigerant Charge Verification – Packaged System		(Page 3 of 3)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City:	Zip Code:

<b>DOCUMENTATION AUTHOR'S DECLARATION STATEMENT</b>		
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:	
<b>RESPONSIBLE PERSON'S DECLARATION STATEMENT</b>		
I certify the following under penalty of perjury, under the laws of the State of California:		
<ol style="list-style-type: none"> <li>The information provided on this Certificate of Installation is true and correct.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ol>		
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:

**CF2R-MCH-25f-E User Instructions****Section A. System Information**

1. This information is automatically pulled from the Certificate of Installation (MCH-01).
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5. This information is automatically pulled from the Certificate of Installation (MCH-01).
6. This information is automatically pulled from the Certificate of Installation (MCH-01)
7. Choose the type of refrigerant used by the system being verified. R-22 and R-410A are the most common, but other types may occasionally be encountered.
8. If “Other” is chosen in A07, then indicate the type of refrigerant being used. If R-22 or R-410A is being used (regardless of trade name, Puron, Genetron, etc.) it should be indicated in A07. This row is only for refrigerants other than R-22 and R-410a. Documentation of refrigerant may be requested.
9. If applicable, a liquid line filter drier shall be installed according to manufacturer’s specifications.
10. Indicate whether the HVAC system is Completely New, Replacement or an Alteration. These are defined in detail the Residential Compliance Manual.
11. Select the appropriate choice regarding whether this system has a Fault Indicator Display (FID). Qualifying FID’s may exempt a system from HERS refrigerant charge verification. FID’s are described in Joint Appendix JA6.1. Qualifying FID’s must appear on a list of approved devices kept by the Commission. Installation of a FID does not exempt the installer from proper refrigerant charge verification. It may only exempt the need for third party refrigerant charge verification. Third party verification of the FID is required. Other requirements may also be triggered.
12. Most ducted split systems and package systems are of the type that minimum airflow can be verified using an approved measurement procedure. Examples of systems that do not meet this description are ductless systems. Selecting “No” here may subject the project to additional scrutiny by enforcement personnel.
13. Most ducted split systems and package systems are of the type that approved refrigerant charge verification procedures detailed in Residential Appendix RA3.2.2 or RA1 can be used (i.e., Standard Charge Verification or Winter Setup Verification procedures). Examples of systems that may not meet this description are “mini splits” or variable refrigerant flow systems that may only be charged using weigh-in procedures. Selecting “No” here may subject the project to additional scrutiny.
14. Specify the date the refrigerant charge verification was performed by the installer.
15. Select the refrigerant charge verification method used from the choices provided:
  - Superheat (outdoor temperature must be  $\geq 55^{\circ}\text{F}$ ); this verification method can only be used when the outdoor temperature is at or above  $55^{\circ}\text{F}$ . It is only used on systems with fixed orifice refrigerant metering devices (non-variable metering devices). This method is detailed in Reference Appendix RA3.2.2.6.1. Systems verified using this method may be eligible for HERS verification compliance using Group Sampling. Choosing this option will generate a CF2R-MCH-25a.
  - Subcooling (outdoor temperature must be  $\geq 55^{\circ}\text{F}$ ); this verification method can only be used when the outdoor temperature is at or above  $55^{\circ}\text{F}$ . It is only used on systems with variable metering devices (TXV or EXV). This method is detailed in Reference Appendix RA3.2.2.6.2. Systems verified using this method may be eligible for HERS verification compliance using Group Sampling. Choosing this option will generate a CF2R-MCH-25b.
  - Weigh-in; this verification method can be used at any outdoor temperature allowed by the equipment manufacturer. This method is detailed in Reference Appendix RA3.2.3. Systems verified using this method are NOT eligible for HERS verification compliance using Group Sampling. Choosing this option will generate a CF2R-MCH-25c.
  - Winter Setup (applicable when outdoor temperature is  $< 55^{\circ}\text{F}$ ); the Winter Setup verification method is a special version of the Subcooling method. It can be used when the outdoor temperature is between  $37^{\circ}\text{F}$  and  $55^{\circ}\text{F}$ . It can only be used on equipment where the manufacturer has specifically approved it for the equipment being tested. The Winter Setup procedure is details in Residential Appendix RA1.2. Choosing this option will generate a CF2R-MCH-25e.
  - New Package Unit Factory Charge; Choose this option when a new package unit is being installed that has an AHRI rating. This helps ensure that the unit was properly charged at the factory. HERS verification of refrigerant charge may not be required in this case. Choosing this option will generate a CF2R-MCH-25f.
16. Identify who will be performing the verification that is documented on this Certificate of Installation, select from the two options. Note that HERS verification compliance by Group Sampling requires that the installer perform their own refrigerant charge verification as part of the installation of the equipment prior to the system being put into a sample group for possible selection by a HERS rater for verification. If Group Sampling is not intended, the HERS Rater may perform the refrigerant charge verification on behalf of the Installing Contractor (applies to any method but Weigh-In) and the Rater will enter same results on both the CF2R and CF3R.

17. The Group Sampling status is automatically displayed based on the input results of A15 and A16. Group Sampling procedures are detailed Residential Appendix RA2.3.

**Section B. Measurement Access Hole (MAH) Verification**

1. Indicate the method used to demonstrate compliance with the MAH requirement by selecting the appropriate method from the drop down list. Procedures for installing MAH's are detailed in RA3.2.2.3. Selecting that the MAH cannot be installed consistent with Figure 3.2-1 may result in additional scrutiny by enforcement personnel.

**Section C. Minimum System Airflow Rate Verification**

1. This information is automatically calculated based on the information given in A10. This is the target minimum system airflow required for the system being verified.
2. This information is automatically calculated based on the MCH-23 or MCH-28, which documents the measured airflow (or alternative method) of the system being verified. If the measured airflow is not adequate it will not comply with the airflow requirements and refrigerant charge verification cannot be performed until the airflow meets the requirement.

**Section D. Verification of New Package Unit Factory Charge**

1. By signing the Declaration Statement at the bottom of this form, the installer is declaring that the package unit was an AHRI certified unit and that no modifications were made to the unit to change the factory charge.

For information and data collection only. Not valid until registered with a HERS provider