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| **A. System Information**  Each system requiring refrigerant charge verification will be documented on a separate certificate. | | |
| 01 | Space Conditioning System Identification or Name |  |
| 02 | Space Conditioning 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 for all indoor units 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 ≥ 55°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 |

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| 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 | 02 | 03 |
| Indoor Unit Name or Description of Area Served | Minimum Required System Airflow Rate (cfm) | System Airflow Rate Verification Status |
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| 04 | Compliance Statement: | |
| Notes: | | |

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| **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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| **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:The information provided on this Certificate of Installation is true and correct.  1. 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. 2. 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. 3. 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: |

**CF2R-MCH-25f-E User Instructions**

**Section A. System Information**

1. This information is automatically pulled from the Certificate of Installation (MCH-01).
2. This information is automatically pulled from the Certificate of Installation (MCH-01)
3. This information is automatically pulled from the Certificate of Installation (MCH-01).
4. This information is automatically pulled from the Certificate of Installation (MCH-01)
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 ≥ 55°F); this verification method can only be used when the outdoor temperature is at or above 55°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 ≥ 55°F); this verification method can only be used when the outdoor temperature is at or above 55°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°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°F and 55°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.

1. 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.
2. 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.

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| **A. System Information**  Each system requiring refrigerant charge verification will be documented on a separate certificate. | | |
| 01 | Space Conditioning System Identification or Name | <<auto filled text: referenced from MCH01>> |
| 02 | Space Conditioning System Location or Area Served | <<auto filled text: referenced from MCH01>> |
| 03 | Condenser (or package unit) Make or Brand | <<auto filled text: referenced from MCH01>> |
| 04 | Condenser (or package unit) Model Number | <<auto filled text: referenced from MCH01>> |
| 05 | Nominal Cooling Capacity (tons) of Condenser | <<auto filled text: referenced from MCH01>> |
| 06 | Condenser (or package unit) Serial Number | <<auto filled text: referenced from MCH01>> |
| 07 | Refrigerant Type | <<user select from list: R-22, or R-410A, or other>> |
| 08 | Other Refrigerant Type (if applicable) | << if A07 value = R-22 or R-410A then value in this field = N/A; elseif value in A07= other, then user input: text in this field to identify the refrigerant type >> |
| 09 | Liquid Line Filter Drier Installed According to Manufacturer’s Specifications (if applicable) | <<user selects from list: Yes or NA>> |
| 10 | System Installation Type | <<user pick one from list: New; or Replacement; or Alteration >> |
| 11 | Fault Indicator Display (FID) Status  (Note: Even systems with a FID must have refrigerant charge verified by installer) | <<user pick one from list: This system has a factory installed FID; or This system has a field installed FID; or This system does not have a FID device installed>> |
| 12 | Is the system of a type that the minimum airflow can be verified for all indoor units using an approved measurement procedure (RA3.3 or RA3.3.3)? | <<(\*for criterion 1 below reference data on MCH-01: MCH-01 section J field 12; or MCH-01b section F field 11 or section G field 09; or MCH-01c section I field 11, or MCH-01d section K field 11 or section L field 13;  \*for criterion 2 below reference data on MCH-01: MCH-01a D07; or MCH-01c C06, or MCH-01d D07;  \*for criterion 3 below reference data on MCH-01: MCH-01b C12, C13; MCH-01d D06, D13)  If one of the following three criteria are true:  criterion 1: [value for the RA3 airflow measurement question field for any of the ducted indoor units for this system on MCH-01=No;  criterion 2:[distribution system type on MCH-01= one of the following two: {\* Multiple split Indoor Units combined Ducted and Ductless}, {\*DuctsNone};  criterion 3:[number of ducted indoor units is less than the total number of indoor units],  then value in this field=**no**, the system airflow rate measurement procedures in RA3.3 or RA3.3.3 cannot be used to verify system airflow rate requirements for all the indoor units for this system;  else value = yes>> |
| 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 ≥ 55°F (RA3.2.2, or RA1)? | <<user pick one from list: **yes**, one of the Refrigerant charge verification procedures from RA3.2.2 or RA1 is applicable to this system and can be used to verify compliance; or **no**, none of the refrigerant charge verification procedures in RA3.2.2, or RA1 are applicable to the system therefore compliance shall use HERS Rater observation of the installer's weigh-in charging procedure>> |
| 14 | Date of Refrigerant Charge Verification for this System | <<user input: date: use validated date format>> |
| 15 | Refrigerant Charge Verification Method Used | <<user pick one from list:   * Superheat (outdoor temperature must be ≥ 55 degF); or * Subcooling (outdoor temperature must be ≥ 55 degF); or * Weigh-in with Installer independent; or * Weigh-in with HERS Rater observation; or * New Package Unit Factory Charge >> |
| 16 | Person who Performed the Refrigerant Charge Verification Reported on this Certificate of Installation | <<if A15 = Weigh-in with Installer independent, or Weigh-in with HERS Rater observation, then value = HVAC System Installer; else prompt user to: pick from list:   * HVAC System Installer; or * HERS Rater >> |
| 17 | HERS Verification Compliance Requirement Status | <<calculated field: if A12 or A13=no, then display text"  "System does not qualify for Group Sampling";  elseif A15= Weigh-in with Installer independent, or Weigh-in with HERS Rater observation, then display text:  "System does not qualify for Group Sampling";  elseif A15 = New Package Unit Factory Charge, then display text: “HERS verification of refrigerant charge is not required”;  elseif, A16=HERS Rater, then display text:  "System does not qualify for Group Sampling;  else display text:  ”System qualifies for Group Sampling.”>> |
|  | determine compliance method for this document; display applicable tables below;  (this row not visible to user) | <<calculated field:  if A12 and A13=yes and A15=Superheat; then display method:  25a Superheat Charge Verification Procedure;  elseif A12 and A13=yes, and A15= Subcooling; then display method:  25b. Subcooling Charge Verification Method;  elseif A12 and A13=yes and A15= Weigh-in with Installer independent, or Weigh-in with HERS Rater observation; then display method:  25c. Weigh-in Charging Procedure;  elseif A12 and A13=yes and A15=Winter Setup; then display method:  25e. Winter Setup for Standard Charge Verification;  elseif A12 and A13=yes and A15= New Package Unit Factory Charge; then display method:  25f. New Package Unit with Factory Charge; and do not require a CF3R-MCH-25 for the SC system when a CF2R-MCH-25f is used.  elsif A12=no, or A13=no; then display method: 25c. Weigh-in Charging Procedure |

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| MCH-25f - Refrigerant Charge Verification - New Package Unit With Factory Charge |

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| 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 | <<user select one of the options from list:   * "MAH installed and labeled consistent with Figure 3.2-1"; or * "Return side of system is located entirely within conditioned space such that an accurate return air dry-bulb temperature can be taken at the return grille"; or * "MAH cannot be installed consistent with Figure 3.2-1. An alternative location has been provided and clearly labeled">> |

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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.  <<require 1 row of data for each indoor unit listed in the "HERS Verification Requirements for Duct Systems" table on the MCH-01> | | | |
| 01 | | 02 | 03 |
| Indoor Unit Name or Description of Area Served | | Minimum Required System Airflow Rate (cfm) | System Airflow Rate Verification Status |
| <<reference value from the "HERS Verification Requirements for Duct Systems" table on the MCH-01 for the "SC System Description of Area Served" value in A02>> | | <calculated field, numeric xxxx.:  **if** A10= New or Replacement, and the system type on the MCH-01 is one of the following two:  \*small duct high velocity AC  \*small duct high velocity HP  **then**  value =A05\*250;  **elseif** A10= New or Replacement,  **then** display numeric value =A05\*350;  **elseif** A10=Alteration,  **then** display numeric value =A05\*300; | <<calculated field:  if the CF2R-MCH-01 indicates a MCH-28 is required for alternate minimum airflow rate compliance, then  if the system has a registered CF2R-MCH-28 that indicates compliance with Table 150.0-B or C return duct design requirements, then result =**system complies using Table 150.0-B or C alternative return duct design criteria**.  else result=**System does not comply. A registered CF2R-MCH-28 is required** (do not allow this MCH-25 to be registered).  elseif the CF2R-MCH-01 indicates a MCH-23 is required for minimum airflow rate compliance, then  if this system has a registered CF2R-MCH-23a, CF2R-MCH-23b, CF2R-MCH-23e or CF2R-MCH-23f that meets the compliance criterion in C01, then result = **System complies with minimum airflow rate requirements**;  elseif A10=Alteration, then  if the system complies with the alternative airflow compliance method on a registered CF2R-MCH23c; then result =**system complies using the alternative remedial actions specified in RA3.3.3.1.5**. **This System does not qualify for Group Sampling.**  else result=**System does not comply. A registered CF2R-MCH-23 for this system is required** . (do not allow this MCH-25 to be registered)>> |
|  | |  |  |
| 04 | Compliance Statement: << If all indoor units listed in C01 indicate a compliant result in C03, then text result= "SC system complies with Minimum System Airflow Rate Verification"; else text result= "SC system does not comply with with Minimum System Airflow Rate Verification", and do not allow this MCH-25 to be registered. | | |
| Notes: | | | |

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| **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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| **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:The information provided on this Certificate of Installation is true and correct.  1. 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. 2. 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. 3. 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: |