



INSTALLATION CERTIFICATE		CF-6R-MECH-26-HERS
Refrigerant Charge Verification – Alternate Measurement Procedure		(Page 1 of 3)
Site Address:	Enforcement Agency:	Permit Number:

As many as 4 systems in the dwelling can be documented for compliance using this form. Attach an additional form(s) for any additional systems in the dwelling as applicable.

Temperature Measurement Access Holes (TMAH) and Saturation Temperature Measurement Sensors (STMS)
Procedures for installing TMAH are specified in Reference Residential Appendix RA3.2. If refrigerant charge verification is required for compliance, TMAH are also required for compliance, unless the TMAH Compliance Option is chosen.

STMS are only required for completely new or replacement space-conditioning systems that utilize prescriptive compliance method.

TMAH - Access Holes in Supply and Return Plenums of Air Handler

System Name or Identification/Tag					
System Location or Area Served					
1	5/16 inch (8 mm) access hole upstream of evaporative coil in the return plenum and labeled according to Figure in Section RA3.2.2.2.2.	<input type="checkbox"/> Yes <input type="checkbox"/> No			
1a	Return side of the duct system is located entirely within conditioned space and return airflow temperature to be measured at the return grille.	<input type="checkbox"/> Yes <input type="checkbox"/> No			
2	5/16 inch (8 mm) access hole downstream of evaporative coil in the supply plenum and labeled according to Figure in Section RA3.2.2.2.2.	<input type="checkbox"/> Yes <input type="checkbox"/> No			
This option should be checked <i>only</i> if it is physically impossible to drill the TMAH as required by Section RA3.2.2.2.2. Using this Compliance Option requires the HVAC installer to annotate on the HERS Provider’s data registry an explanation as to why the TMAH cannot be installed on the system, and photographs of the equipment on which the TMAH cannot be installed. Use of this Compliance Option with the Alternate Measurement Procedure will require minimum airflow verification by a HERS Rater through the direct measurement of airflow per RA3.3. For more information see http://www.energy.ca.gov/title24/2008standards/special_case_appliance/					
TMAH Compliance Option		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Yes to 1 and 2, or Yes to 1a and 2, or checking the TMAH Compliance Option, is a pass. Enter Pass or Fail		<input type="checkbox"/> Pass <input type="checkbox"/> Fail			



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STMS - Sensor on the Evaporator Coil

	System Name or Identification/Tag			
3	The sensor is factory installed, or field installed according to manufacturer's specifications, or is installed by methods/specifications approved by the Executive Director.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
4	The sensor wire is terminated with a standard mini plug suitable for connection to a digital thermometer. The sensor mini plug is accessible to the installing technician and the HERS rater without changing the airflow through the condenser coil	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
5	The sensor measures the saturation temperature of the coil within 1.3 degrees F	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Yes to 3, 4, and 5 is a pass. Enter N/A if STMS are not applicable. Otherwise enter Pass or Fail	<input type="checkbox"/> N/A <input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> N/A <input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> N/A <input type="checkbox"/> Pass <input type="checkbox"/> Fail

STMS - Sensor on the Condenser Coil

	System Name or Identification/Tag			
6	The sensor is factory installed, or field installed according to manufacturer's specifications, or is installed by methods/specifications approved by the Executive Director.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
7	The sensor wire is terminated with a standard mini plug suitable for connection to a digital thermometer. The sensor mini plug is accessible to the installing technician and the HERS rater without changing the airflow through the condenser coil	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
8	The sensor measures the saturation temperature of the coil within 1.3 degrees F	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Yes to 6, 7, and 8 is a pass. Enter N/A if STMS are not applicable. Otherwise enter Pass or Fail	<input type="checkbox"/> N/A <input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> N/A <input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> N/A <input type="checkbox"/> Pass <input type="checkbox"/> Fail

Alternate Charge Measurement Procedure (for use if outdoor air dry-bulb is below 55 °F)

Procedures for Determining Refrigerant Charge using the Alternate Method are available in Reference Residential Appendix RA3.2. As many as 4 systems in the dwelling can be documented for compliance using this form. Attach an additional form(s) for any additional systems in the dwelling as applicable.



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- *The alternative charge measurement procedure requires that the system shall be installed and charged in accordance with the manufacturer’s specifications for refrigerant charge using the weigh-in charging method.*
- *Installer verification of line lengths and charge adjustment calculation must be documented on CF-6R before starting this procedure.*
- *If outdoor air dry-bulb is 55 °F or above, installer must use the Standard Charge Measure Procedure.*

Weigh-In Charging Method for Refrigerant Charge Verification				
System Name or Identification/Tag				
System Location or Area Served				
Actual liquid line length (ft)				
Manufacturer’s Standard liquid line length (ft)				
Calculate: difference in length (ft) = Actual length – Standard length				
Manufacturer’s correction factor (ounces per foot)				
Calculate: charge adjustment = correction factor X difference in length				
Alternate Charge Measurement Summary: System refrigerant charge has been adjusted to meet the manufacturer's specifications based on actual line length Enter Pass or Fail				

Declaration statement

- I certify under penalty of perjury, under the laws of the State of California, the information provided on this form is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for construction, or an authorized representative of the person responsible for construction (responsible person).
- I certify that the installed features, materials, components, or manufactured devices identified on this certificate (the installation) conforms to all applicable codes and regulations, and the installation is consistent with the plans and specifications approved by the enforcement agency.
- I understand that a HERS rater will check the installation to verify compliance, and that that if such checking identifies defects, I am required to take corrective action at my expense. I understand that Energy Commission and HERS provider representatives will also perform quality assurance checking of installations, including those approved as part of a sample group but not checked by a HERS rater, and if those installations fail to meet the requirements of such quality assurance checking, the required corrective action and additional checking/testing of other installations in that HERS sample group will be performed at my expense.
- I reviewed a copy of the Certificate of Compliance (CF-1R) form approved by the enforcement agency that identifies the specific requirements for the installation. I certify that the requirements detailed on the CF-1R that apply to the installation have been met.
- **I will ensure that a completed, signed copy of this Installation Certificate 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 signed copy of this Installation Certificate is required to be included with the documentation the builder provides to the building owner at occupancy.** I will ensure that all Installation Certificates will come from a HERS provider data registry for multiple orientation alternatives, and beginning October 1, 2010, for all low-rise residential buildings.

Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)		
Responsible Person's Name:	Responsible Person's Signature:	
CSLB License:	Date Signed:	Position With Company (Title):