

Uplight - HERS - AHRI Matrix

	HVAC Fields Required in Uplight	Example	Where to find this information?	
			HERS Documentation	AHRI Certificate
1	System Number	Text response such as "System 1"	MCH-20, 23, and 25, field A1	
2	System Type	Options: Package, Split, Mini-split		x
3	AHRI Reference number	Numeric response such as "9653406"		x
4	Replaced System Heating Type	Options: Package furnace, split furnace, wall furnace, gas baseboard heat		
5	Replaced system fuel type	Options: Natural gas, propane		
6	Should this ductwork be exempt from testing due to asbestos?	Yes or No	2R-MCH-01, field J4	
7	Leakage test method	Text response such as "Total leakage"	MCH-20, field B8	
8	CFM leakage	Numeric response such as "187"	MCH-20, field B11	
9	Leakage percentage	.13 or 13%	Not reported on HERS. You must calculate the percentage yourself. $187 \text{ (use "8. CFM leakage")} / (3.5 \text{ (use "15. Cooling capacity in tons") } \times 400\text{cfm}) = .13$	
10	Series name	Constant Comfort SXT+ R410A HP		x
11	Outdoor unit brand	Example or DAY & NIGHT	MCH-25, field A3	x
12	Outdoor unit model number	Alphanumeric response such as 345042xxx or CCH660GA	MCH-25, field A4	x
13	Indoor unit brand	Text response such as DAY & NIGHT	2R-MCH-01, field D5	x
14	Indoor unit model number	Alphanumeric response such as FVM4X60***L	2R-MCH-01, field D6	x
15	Cooling capacity in tons	Numeric response such as 3.5	MCH-20, field B2, MCH-25, field A5	
16	Max heating capacity in BTUs	Numeric response such as 57000		x
17	Total airflow	Numeric response such as 1250	2R or 3R- MCH-23, field D3	
18	Is the compressor two stage or better?	Yes or No		
19	SEER rating	Numeric response such as 16		x
20	EER rating (95F)	Numeric response such as 12.5		x
21	HSPF	Numeric response such as 9		x
22	Air handler ECM motor type	Text response such as Constant torque or variable		
23	Thermostat: Brand name	Text response such as Honeywell		
24	Thermostat: Serial number	Alphanumeric response such as SN343289		
25	Thermostat: Model number	Alphanumeric response such as RTH9585WF****		
26	Thermostat: Is the thermostat Wi-Fi enabled and 7-day program mable with multiple setbacks?	Yes or No		

HERS Documentation

CF2R-MCH-20-H

CERTIFICATE OF INSTALLATION				CF2R-MCH-20-H	
Duct Leakage Diagnostic Test				(Page 1 of 3)	
Project Name:	SMUD HPP Example	Enforcement Agency:	City of CalCERTSville	Permit Number:	12345
Dwelling Address:	123 Main Street	City:	CalCERTSville	Zip Code:	00000

A. System Information		1. System Number
01	Space Conditioning System Identification or Name	System 1
02	Space Conditioning System Location or Area Served	Entire house
03	Indoor Unit Name or Description of Area Served	N/A
04	Building Type from CF-1R	Single family
05	Verified Low Leakage Ducts in Conditioned Space (VLLDCS) Credit from CF1R?	No, credit is not taken
06	Verified Low Leakage Air Handling Unit Credit from CF1R?	No, credit is not taken
07	Duct System Compliance Category	Alteration
08	Portions of Duct Located in Garage?	No
09	Is the system type Small Duct High Velocity (SDHV) ?	No

MCH-20d - Complete Replacement or Altered Duct System

B. Duct Leakage Diagnostic Test			
01	Air Handling Unit Airflow (AHU Airflow) Determination Method	Cooling system method	
02	Condenser Nominal Cooling Capacity (ton)	3.5	15. Cooling Capacity in tons
03	Indoor Unit Nominal Cooling Capacity	n/a	
04	Heating Capacity (kBtu/h)	n/a	
05	Conditioned Floor Area Served by this HVAC System (ft ²)	n/a	
06	Measured AHU Airflow (cfm)	n/a	
07	Duct Leakage Test Conditions	Test final	7. Leakage Test Method
08	Duct Leakage Test Method	Total leakage	
09	Leakage Factor	0.15	8. CFM Leakage
10	Calculated Target Allowable Duct Leakage (cfm)	210	
11	Actual Duct Leakage Rate from Leakage Test Measurement (cfm)	187	
12	Compliance Statement:	System passes leakage test	

Registration Number:
221-A020188763A-000-001-M20001A-0000

Registration Date/Time: 2021-09-09 13:49:48

HERS Provider: CalCERTS

CA Building Energy Efficiency Standards
2019 Residential Compliance

Report Version: 2019.1.005
Schema Version: rev 20210501

Report Generated: 2021-09-09 13:43:42

HERS Documentation

CF2R-MCH-25-H

CERTIFICATE OF INSTALLATION		CF2R-MCH-25-H
Refrigerant Charge Verification		(Page 1 of 5)
Project Name:	SMUD HPP Example	Enforcement Agency: City of CalCERTSville
		Permit Number: 12345
Dwelling Address:	123 Main Street	City: CalCERTSville
		Zip Code: 00000
A. System Information Each system requiring refrigerant charge verification will be documented on a separate certificate.		
01	Space Conditioning System Identification or Name	System 1
02	Space Conditioning System Location or Area Served	Entire house
03	Condenser (or package unit) Make or Brand	Example
04	Condenser (or package unit) Model Number	345042xxx
05	Nominal Cooling Capacity (tons) of Condenser	3.5
06	Condenser (or package unit) Serial Number	123456
07	Refrigerant Type	R-410A
08	Other Refrigerant Type (if applicable)	n/a
09	Liquid Line Filter Drier Installed According to Manufacturers Specifications (if applicable)	Yes
10	System Installation Type	Alteration
11	Fault Indicator Display (FID) Status (Note: Even systems with a FID must have refrigerant charge verified by installer).	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)?	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)?	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
14	Date of Refrigerant Charge Verification for this system	2021-09-09
15	Refrigerant charge verification method used.	Subcooling (outdoor temperature must be equal to or greater than 55 degF)
16	Person who performed the Refrigerant Charge Verification reported on this Certificate of Installation	HVAC system installer
17	HERS Verification Compliance Requirement Status	System qualifies for group sampling

MCH-25b - Refrigerant Charge Verification - Subcooling Method

HERS Documentation

CF2R-MCH-01-E

CERTIFICATE OF INSTALLATION													CF2R-MCH-01-E
Space Conditioning Systems, Ducts, and Fans													(Page 2 of 7)
C. Space Conditioning (SC) System Alterations Compliance Information													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
SC System ID/ Name from CF1R	SC System Description of Area Served	Heating System Type	Altered Heating Component	Heating Efficiency Type	Heating Minimum Efficiency Value	Cooling System Type	Altered Cooling Component	Cooling Efficiency Type	Cooling Minimum Efficiency	Required Thermostat Type	Number of Indoor Units for this System	Number of Ducted Indoor Units for this System	Central Fan Integrated (CFI) Ventilation System Status
System 1	Entire house	Central gas furnace	All new heating components	AFUE	80	Central split AC	All new cooling components	SEER	14	Setback	1	1	Not a CFI system
Notes:													
D. Installed Heating Equipment Information for Gas Furnace Indoor Unit, or Heat Pump Indoor Unit, or Packaged Unit (Gas Furnace or Heat Pump)													
01	02	03	04	05	06	07	08	09	10				
SC System ID/ Name from CF1R	SC System Description of Area Served	Heating Efficiency Type	Heating Efficiency Value	Indoor Unit or Packaged Unit Manufacturer	Indoor Unit or Packaged Unit Model Number	Indoor Unit or Packaged Unit Serial Number	SC System Rated Heating Capacity, Output (Btu/h)	Multi-split Indoor Unit Name or Description of Area Served	Multi-split Indoor Unit Duct Status				
System 1	Entire house	AFUE	80	Example	xxby4	312345	40000	n/a	n/a				
Notes:													

CERTIFICATE OF INSTALLATION									CF2R-MCH-01-E
Space Conditioning Systems, Ducts, and Fans									(Page 4 of 7)
J. HERS Verification Requirements for Duct Systems									
01	02	03	04	05	06	07	08	09	
SC System Identification or Name	SC System Description of Area Served	Indoor Unit Name or Description of Area Served	Exemption From Duct Leakage Requirements	MCH-20 Duct Leakage Test	MCH-21 Duct Location Verification	MCH-22 AHU Fan Efficacy (W/cfm)	MCH-23 AHU Airflow Rate (cfm/ton)	MCH-28 Return Duct Design - Table 150.0-B or C	
System 1	Entire house	N/A	None	Yes	No	No	Yes	No	
Notes:									
K. HERS Verification Requirements For Space Conditioning Equipment									
01	02	03							
SC System ID/ Name from CF1R	SC System Description of Area Served	MCH-25 Refrigerant Charge							
System 1	Entire house	Yes							
Notes:									

HERS Documentation

CF2R-MCH-23-H

CERTIFICATE OF INSTALLATION		CF2R-MCH-23-H
Space Conditioning System Airflow Rate		(Page 2 of 3)
D. Forced Air System Airflow Rate Measurement The procedures for System Airflow Rate Verification are specified in Reference Residential Appendix RA3.3.		
01	Required Minimum System Airflow Rate (cfm/ton)	300
02	Required Minimum System Airflow Target (cfm)	1050
03	Actual System Airflow Rate Measurement (cfm)	1250
04	Compliance Statement:	System airflow rate complies
E. Additional Requirements		
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 air flow 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 newly constructed 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 air flow (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.	
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.		

17. Total Airflow

AHRI Certificate



Certificate of Product Ratings

AHRI Certified Reference Number : 9653406 ← **3. AHRI Reference Number** Model Status : Active

AHRI Type : HRCU-A-CB

Series : CONSTANT COMFORT SXT+ R410A HP ← **10. Series Name**

Outdoor Unit Brand Name : DAY & NIGHT ← **11. Outdoor Unit Brand Name**

Outdoor Unit Model Number (Condenser or Single Package) : CCH660GKA** ← **12. Outdoor Unit Model Number**

Indoor Unit Model Number (Evaporator and/or Air Handler) : FVM4X60***L ← **14. Indoor Unit Model Number**

The manufacturer of this DAY & NIGHT product is responsible for the rating of this system combination.

Rated as follows in accordance with the latest edition of ANSI/AHRI 210/240 with Addenda 1 and 2, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A2) - Single or High Stage (95F), btuh : 56500

SEER : 16.00 ← **19. SEER Rating**

EER (A2) - Single or High Stage (95F) : 12.50 ← **20. EER Rating**

Heating Capacity (H12) - Single or High Stage (47F) : 57000 ← **16. Max Heating Capacity in BTU**

HSPF (Region IV) : 9.00 ← **21. HSPF**



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