

# OPERATIONS MANUAL

## DATACOM COOLING CERTIFICATION PROGRAM

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**AHRI DCOM OM – JANUARY 2018**

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## **PREFACE**

The following manual outlines the procedures and policies of the Performance Certification Program for Datacom Cooling (DCOM) operated by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). This manual is to be used in conjunction with the AHRI General Operations Manual for AHRI Certification Programs. Where the AHRI General Operations Manual and this product-specific manual differ, this product-specific operations manual shall prevail.

The revision of this manual supersedes all previous revisions. The current edition of this manual, as well as the AHRI General Operations Manual, can be accessed through the AHRI website, [www.ahrinet.org](http://www.ahrinet.org).

The DCOM Certification Program by AHRI provides for independent verification of the Datacom Cooling manufacturers' stated equipment performance. Safety criteria are not within the scope of this program.

Participation in the program is voluntary. Any manufacturer, regardless of AHRI membership, may obtain approval of Program Ratings and use of the AHRI DCOM Certification Mark hereinafter referred to as the "Mark". The Mark is the Participant's public representation that the ratings of randomly selected samples have been verified by an independent laboratory in accordance with test procedures prescribed by this operations manual. A Certification Agreement is executed between the manufacturer and AHRI specifying the conditions under which such Ratings and the Mark may be used. No manufacturer has the right to use Program Ratings or to state that their products have been tested in conformance with the procedures outlined in this Rating Procedure unless and until they have received written authority from AHRI to use the Mark as applied to the specific approved Program Ratings.

This Operations Manual has been prepared to assure that administration of the program is carried out in a uniform manner. It is an amplification of the Certification Agreement signed by licensees and AHRI. General information, procedural details, and copies of forms are included in this Operations Manual. Provisions of the Operations Manual may be amended as provided in the Certification Agreement.

This certification program complies with requirements of the ISO/IEC Standard 17065:2012, *General Requirements for Bodies Operating Product Certification Systems*.

### Note:

This manual supersedes Datacom Cooling Certification Program Operations Manual, September 2016.

**CERTIFICATION OPERATIONS MANUAL FOR  
DATACOM COOLING**

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**Documents Referenced which are only Available Online ([www.ahrinet.org](http://www.ahrinet.org))**

- DCOM-WT1 - Application for Witness Testing
- DCOM-WT2 - Personnel Experience Questionnaire
- DCOM-WT3 - Facility and Equipment Questionnaire

## 1. Program Overview

1.1 Applicable Rating Standard. It is mandatory for program Participants to comply with the applicable rating standard (AHRI Standard 1360 (I-P) and/or ASHRAE 127-2007) as shown in Table 3 for each type of unit.

A copy of the AHRI Standard 1360 (I-P) is available for download from the AHRI website, [www.ahrinet.org](http://www.ahrinet.org).

1.2 Product Definitions. All terms in this document shall follow the AHRI GOM and the Standard definitions unless otherwise defined in this section.

1.2.1 Computer and Data Processing Room Air Conditioner (CDPR). A floor mounted Computer and Data Processing Room Air Conditioner consists of one or more factory-made assemblies, which include a direct expansion evaporator or chilled water cooling coil, an air-moving device(s) and air-filtering device(s). The air conditioner may include a compressor, condenser, humidifier or reheating function. The functions of a CDPR, either alone or in combination with a cooling plant, are to provide air filtration, air circulation, cooling, and humidity control (if the necessary options are included).

1.2.2 Published Ratings. All published ratings of certified products which fall within the scope of the Program shall match the ratings generated using the Participant's Primary Catalog / Selection Rating Software listed in the AHRI Directory at the time of publication. Published ratings that reference AHRI Certification shall provide sufficient information to be reproduced in the Participants Primary Catalog / Selection Rating Software.

1.2.2.1 Primary Published Ratings. Ratings published using the Participant's Primary Catalog / Selection Rating Software listed in the AHRI Directory at the time of publication.

1.2.2.2 Secondary Published Ratings. Ratings published using media other than the Participant's Primary Catalog / Selection Rating Software listed in the AHRI Directory at the time of publication. All Secondary Published Ratings shall be generated using the Participant's Primary Catalog / Selection Rating Software listed in the AHRI Directory at the time of publication.

Secondary Published Ratings that are publicly distributed or publicly available shall reference the Primary Catalog / Selection Software Name and Version used to generate the certified performance.

1.3 Program Scope. This program applies all 50 Hz and 60 Hz CDPR unit Production Models, as defined in Section 1.2.1 that fall within the capacity scope defined in Table 1. All units, regardless of alternate possible configurations, shall be categorized and rated as one of the six (6) Standard Models defined in the Standard (Section 3.19 and Appendix C).

Table 1. Program Scope		
Standard Model <sup>1</sup>	AHRI Type <sup>2</sup>	Capacity <sup>4</sup>
Downflow Unit Horizontal-flow Unit Upflow Unit–ducted Upflow Unit–nonducted Ceiling Mounted Unit–ducted Ceiling Mounted Unit–nonducted	CSP-A CSP-A-FC CRCU-A CRCU-A-FC CSPS-A CSPS-A-FC CSP-W <sup>3</sup> CSP-W-FC <sup>3</sup>	Total cooling capacity ≤ 225 kW Airflow rate ≤ 30,000 CFM Fluid flow rate ≤ 160 gpm Total Heat of Rejection (THR) ≤ 281 kW
	CFC-C	Total cooling capacity ≤ 253 kW Airflow rate ≤ 36,000 CFM Fluid flow rate ≤ 180 gpm Total Heat of Rejection (THR) ≤ 317 kW
Notes: 1. Standard Models are defined in Section 3 of AHRI Standard 1360. 2. AHRI Types are described in Table 1 of AHRI Standard 1360. 3. Water-cooled units only. 4. Applies to performance at AHRI Standard 1360 (I-P) Standard Rating Conditions.		

1.4 **Intended Market.** The Intended Market for this Certification Program, includes all products defined in Section 1.3 that are sold for use in the U.S. (including U.S. Territories) and Canada. Refer to Section 7.1.2.1 of the AHRI General OM.

1.5 **Optional Certification.** If Participants certify units within the Program Scope that are sold for use outside of the Intended Market, the entire BMG from the same country of origin shall be certified.

1.6 **Basic Model Groups (BMGs).** A Participant’s listing shall be grouped by BMG ID as defined by Table 2.

Table 2. Minimum Requirements for Basic Model Groups		
AHRI Type <sup>1</sup>	Standard Model <sup>2</sup>	BMG ID <sup>3</sup>
CSP-A	Downflow Unit	10
CSP-A-FC	Horizontal-flow Unit	20
CRCU-A	Upflow Unit–ducted	30
CRCU-A-FC	Upflow Unit–nonducted	40
CSPS-A	Upflow Unit–nonducted	40
CSPS-A-FC	Ceiling Mounted Unit–ducted	50
CSP-W <sup>4</sup>	Ceiling Mounted Unit–ducted	50
CSP-W-FC <sup>4</sup>	Ceiling Mounted Unit–nonducted	60
CFC-C	Downflow Unit	210
	Horizontal-flow Unit	220
	Upflow Unit–ducted	230
	Upflow Unit–nonducted	240
	Ceiling Mounted Unit–ducted	250
	Ceiling Mounted Unit–nonducted	260
Notes: 1. AHRI Types are described in Table 1 of AHRI Standard 1360. 2. Standard Models are defined in Section 3 of AHRI Standard 1360. 3. A Participant may choose to further subdivide its products into additional BMGs (e.g. CFC-C Down-flow Units may be subdivided into BMG IDs 210 through 219). 4. Water-cooled units only.		

## 2. Qualification Process

2.1 Original Equipment Manufacturer (OEM) Applicants. With the additions noted below, the OEM qualification process shall proceed according to the AHRI General Operations Manual, Section 4.

STEP 2.1.1 Certification Application Package. In addition to the Application for AHRI Certification, Annual Sales Volume Form, and product-specific ratings and data, noted in the AHRI General Operations Manual, Section 4, STEP 4.1, Applicants shall submit the following documentation to AHRI:

- One test report for each BMG;
- If the Applicant chooses to conduct witness testing at its AHRI Approved Facility, all required forms per Section 3.3.1 of this manual for Witness Testing Facility Approval shall also be submitted;
- Copy of Applicant's Primary Catalog / Selection Rating Software (refer to Section 3.8).
- An Applicant requesting AHRI to submit data to California Energy Commission (CEC) and Department of Energy (DOE) shall submit third-party authorization, compliance forms and other necessary information.

Electronic forms shall be obtained from AHRI (available on [www.ahrinet.org](http://www.ahrinet.org) under the Product-Specific Certification Program).

STEP 2.1.2 Processing Application Package.

STEP 2.1.2.1 Performance Certification Agreement for Original Equipment Manufacturer (OEM Agreement). No further action required beyond that listed in Section 4, STEP 4.2 of the AHRI General Operations Manual.

STEP 2.1.2.2 Participation and Licensing Fee Invoice. Payment of the Participation and Licensing Fee is due within 30 calendar days of the invoice issue date. Testing shall not be conducted until the invoice is paid in full. No further action required beyond that listed in Section 4, STEP 4.2 of the AHRI General Operations Manual.

STEP 2.1.3 Selection and Acquisition of Test Samples. Except as noted below, refer to Section 3 for requirements of selection and acquisition of test samples.

STEP 2.1.3.1 Number of Qualification Tests. 30% of an Applicant's BMGs shall be tested, with a minimum of two (2) models. Fractional numbers shall be rounded to the nearest whole number using traditional rounding methods.

STEP 2.1.4 Qualification Testing. AHRI shall supply the Laboratory with the Published Ratings. The Laboratory shall conduct the testing of the samples in accordance with the Standard, against the Published Ratings.

STEP 2.1.4.1 Successful Completion of All Qualification Tests. If all qualification tests pass, proceed to STEP 2.1.5.

STEP 2.1.4.2 First Sample Qualification Test Failure. Refer to Section 4, STEP 4.4.2 of the AHRI General Operations Manual for details regarding the first sample qualification failure options:

STEP 2.1.4.3 Second Sample Qualification Test Failure. Refer to Section 4, STEP 4.4.3 of the AHRI General Operations Manual for details regarding the second sample qualification failure options.

STEP 2.1.5 Welcome to the Program. No further action required beyond that listed in Section 4, STEP 4.5 of the AHRI General Operations Manual.

2.2 Private Brand Marketer (PBM) Applicants. With the additions noted below, the PBM qualification process shall proceed according to the AHRI General Operations Manual, Section 5.

PBM applicants are not required to undergo witness test facility inspection or initial qualification testing. PBM product certification is contingent upon the certification of the associated OEM product. PBM software must directly correlate to OEM software. If the software has variations, the PBM must register and test as an OEM.

STEP 2.2.1 Certification Application Package. In addition to the Application for AHRI Certification Form noted in the AHRI General Operations Manual, Section 5, STEP 5.1, Applicants shall submit the following documentation to AHRI:

- Copy of Applicant's Primary Catalog / Selection Rating Software (refer to Section 3.8)
- An Applicant requesting AHRI to submit data to CEC and DOE shall submit third-party authorization, compliance forms and other necessary information.

STEP 2.2.2 Processing Application Package.

STEP 2.2.2.1 Primary Catalog / Selection Rating Software Approval. Refer to Section 3.8 for Primary Catalog / Selection Rating Software requirements.

STEP 2.2.2.2 Performance Certification Agreement for Private Brand Marketer (PBM Agreement). No further action required beyond that listed in Section 5, STEP 5.2.1 of the AHRI General Operations Manual.

STEP 2.2.2.3 OEM Agreement on Behalf of the PBM Applicant. No further action required beyond that listed in Section 5, STEP 5.2.2 of the AHRI General Operations Manual.

STEP 2.2.2.4 Licensing Fee Invoice. Payment of the Licensing Fee is due within 30 calendar days of the invoice issue date.

STEP 2.2.3 Welcome to the Program. No further action required beyond that listed in Section 5, STEP 5.3 of the AHRI General Operations Manual.

### 3. Equipment Selection and Testing

3.1 Annual Testing Requirement. 20% of a Participant's BMGs shall be tested annually, with a minimum of two (2) models. Fractional numbers shall be rounded to the nearest whole number using traditional rounding methods.

3.2 Location of Tests. Testing shall be performed at the Laboratory or an AHRI-Approved Facility and the sample shall be installed in the test facility in accordance with the Participant's published installation instructions in printed or electronic format.

The Participant shall elect to conduct testing at the Laboratory or at the Facility. The Facility shall be approved by AHRI prior to any test being conducted. Testing shall continue to be conducted at the Participant's Facility, contingent upon it remaining AHRI-approved, or until the Participant notifies AHRI, in writing, of its desire to change facilities. All tests, regardless of location, shall be conducted or witnessed by the Laboratory's Representative (Representative).

3.3 Witness Testing Procedures and Operations. This Certification Program allows witness testing; where Participant personnel witnessed by the Representative, conducts testing at a Facility. Witness testing requirements are covered in the AHRI General Operations Manual, Section 9 and as specified below.

3.3.1 Application for Witness Testing. A Participant shall submit all of the following to AHRI:

- DCOM-WT1 - Application for Witness Testing;
- DCOM-WT2 - Personnel Experience Questionnaire;
- DCOM-WT3 - Facility and Equipment Questionnaire;



- A complete list of all instruments and equipment being used to perform certification testing in accordance with Standard and a copy of each calibration report showing date of last calibration.
- A schematic drawing of the area of the test facility in which AHRI certification testing will be performed; and
- Photographs of the test facility in which AHRI certification testing will take place, which shall include sufficient views to show the location and connection of each instrument.

3.3.1.1 Acknowledgement of Request. AHRI shall acknowledge receipt of the Participant's application to conduct witness testing. AHRI shall review the material and shall inform the Participant if additional information and/or changes are required for the Facility to meet the Standard.

3.3.2 Inspection of Witness Test Facility. Following preliminary witness test facility approval based on submitted data, the Representative shall inspect the witness test facility to verify compliance to the data submitted and to the certification program. Testing may be scheduled simultaneously with witness test facility inspection; however, should the witness test facility fail inspection, the testing shall be delayed until the witness test facility is brought into compliance. The Representative shall complete applicable portions of Form DCOM-WT3.

3.3.2.1 Non-Compliant Inspection Results. If the results of the inspection indicate that a Facility is non-compliant with the certification program, all discrepancies shall be resolved and resubmitted to AHRI, before approval can be granted to proceed with certified rating tests.

3.3.2.2 Final Approval of Witness Test Facility. Upon acceptable results of the inspection, AHRI shall notify the Participant of final acceptance and approval to proceed with the witness tests. AHRI shall provide the Participant with a certificate of approval that shall be displayed in the Participant's Facility.

3.3.3 Scheduled Witness Test Facility Re-approval. The Facility shall remain approved for no more than two (2) years. At this time, re-approval shall be required, including submittal of the documents outlined in Section 3.3.1 and inspection outlined in Section 3.3.2.

3.3.4 Unscheduled Facility Re-approval. Any changes that may affect a Facility's ability to function per the certification program requirements shall be required to be re-approved by the Representative prior to conducting any witness testing. At this time, re-approval shall be required, including submittal of the documents outlined in Section 3.3.1 and inspection outlined in Section 3.3.2.

3.3.5 Witness Test Operations at a Facility.

3.3.5.1 Advance Set-Up of Sample in the Facility. A Participant may set up the test sample in the Facility prior to the arrival of the Representative. Prior to witness test commencement, the Representative shall verify that the sample is the model selected by AHRI for witness testing and that the sample has been set up in the Facility in accordance with the Participant's installation instructions and referenced method of test.

3.3.5.2 Duty Assignments of Representative. Sample testing, data acquisition, and data reduction shall be performed by the Participant personnel and assisted and witnessed by the Representative. Participant or Facility personnel shall be on-hand to assist the Representative as requested and are permitted to be present but are not permitted to tamper or adjust samples during witness tests, unless specifically approved by the Representative responsible for the witness test.

Verification of instrument application (in accordance with the procedures defined in the Standard) and verification of calibrations shall be performed by the Representative.

3.3.5.3 *Use of Laboratory Instrumentation.* The Representative shall use primary test instruments belonging to the Laboratory in line with those provided by the Participant to measure:

- Air Side
  - Entering and leaving Wb and Db temp (Participant to provide provision to measure leaving air temperature)
  - Nozzle delta pressure (at Participant's flow nozzle with knowledge of nozzle geometry to calculate CFM)
  - Duct external static pressure (in supply air duct)
- Water Side
  - Entering and leaving temp
  - Water pressure drop
- Barometric Pressure
- Power

In accordance with the Standard. Readings shall be taken from both devices. The readings from the Participant data acquisition system shall be used provided that:

- The Participant equipment is under current calibration;
- All data acquisition is in accordance with the Standard.
- All air temperatures including indoor and outdoor (Wb and Db) as well as nozzle air shall not differ by more than 0.4°F;
- Nozzle delta pressure shall not differ by more than 0.03 in H<sub>2</sub>O;
- Duct external static pressures shall not differ by more than 0.03 in H<sub>2</sub>O;
- Water temperature delta-T shall not differ by more than 0.4°F;
- Water pressure drop shall not differ by more than 2.5% of the Participant's reading;
- Power input shall not differ more than 2.0% of the Participant's reading; and
- Barometric pressure shall not differ by more than 4.0% of the Participant's reading;

The Representative shall verify that the Facility test conditions remain within the allowable tolerances for the duration of the test period. This shall be done by comparing arithmetic mean values for each Participant measurement against the corresponding arithmetic mean values for each Laboratory measurement. Arithmetic mean values shall be calculated across the entire test period.

The Representative shall verify that the test duration does not vary by more than 10 seconds for start and stop times.

Should any of these criteria not be met, steps should be taken to ensure that the discrepancy is resolved. In cases where the discrepancy cannot be resolved and no damage is apparent, the Laboratory instrumentation data for that parameter shall be used.

3.3.5.4 *Sample Start-Up and Operation.* Start-up and operation of the sample shall be in accordance with the Participant's published installation instructions in printed or electronic format.

3.4 *Air Flow Measurement Apparatus Check.* Prior to testing, the air flow measurement apparatus is functioning properly using the following procedure.

- The Facility shall be operated, in accordance with the Standard, at the test sample rated air flow rate (+/- 30%) and external static pressure (+/- 0.02 in H<sub>2</sub>O), over a 10-minute period, using both the smallest and largest available nozzle size combinations at the same flow rate. This will produce two flow rate measurements (each averaged over separate 10-minute periods).
- Both measurements shall be within 1% of the average of the two measurements to approve use of the air flow measurement apparatus.
- If both measurements are not within 1% of the average of the two measurements, steps should be taken to ensure that the discrepancy is resolved. In cases where the discrepancy cannot be resolved AHRI will review and determine appropriate action.

Prior to and after testing, the entire airflow measurement apparatus duct system shall be visually inspected for leaks. If leaks are discovered the leaks shall be corrected the unit shall be retested.

3.5 Selection of Test Samples. AHRI shall make a Scheduled Production Model or Build-To-Specifications Test Sample Selection based on data contained in the Directory. AHRI shall utilize the Participant's AHRI approved Primary Catalog / Selection Rating Software(s) to select a sample to operate within the limits of rating conditions per the Standard. Refer to Section 9 of the AHRI General Operations Manual.

3.6 Method of Acquiring Test Samples. Selected samples shall be shipped to the Laboratory or be available for Witness Testing at the Facility.

3.7 Sample Acquisition Timeframe. Upon notification of selections by AHRI, the Participant shall have 90 calendar days to deliver the units to the Laboratory (accompanied by the Participant's published installation instructions in printed or electronic format), or conduct witness testing at the Facility. Extended transit times shall be approved by AHRI prior to selection. Prior to test, AHRI shall supply the Laboratory with the Published Ratings.

Upon notification of selections by AHRI, the Participant shall work with AHRI to determine mutually agreed upon test date which may require the Participant to accelerate product production.

3.8 Primary Catalog / Selection Rating Software. A Participant shall provide AHRI with the most up to date version of its Catalog (if applicable) or Selection Rating Software (including all necessary instructions and passwords required for access and updates).

3.8.1 Primary Catalog / Selection Rating Software Output Reports. Primary Catalogs or Selection Rating Software Output Reports may be printed or electronic from PC based applications or screen captures from mobile applications and shall include the minimum information required by Table 4 of the Standard (except for Total Humidification Capacity) in addition to the following:

- Manufacturer name;
- Certified performance (Refer to Section 3.8);
- Proper claims to AHRI Certification (Refer to Section 3.8.4); and
- Each page shall contain the following:
  - Catalog / Selection Rating Software name and version;
  - Reference page number (example: 1 of 2); and
  - Date each catalog or selection software output report is generated.

If the Participant has more than one (1) Primary Catalog / Selection Rating Software available to users, each shall be verified by AHRI.

3.8.2 Installation of Primary Catalog / Selection Rating Software. AHRI shall provide the Participant with a login/password to a personalized Virtual Machine (VM) to install their Primary Catalog / Selection Rating Software. The Participant shall generate two (2) random selections to ensure successful software installation and operation. Once the Participant notifies AHRI that the Primary Catalog / Selection Rating Software has been successfully installed, AHRI shall grant approval of the Catalog / Selection Rating Software within seven (7) calendar days.

3.8.3 Revisions to Primary Catalog / Selection Rating Software. Per the AHRI General Operations Manual, Section 9, AHRI shall have an updated copy of any Catalog / Selection Rating Software being used in the field. Any updates shall promptly be provided to AHRI via installation to the Participant's VM.

Whenever a Participant's Primary Catalog / Selection Rating Software is revised, the Participant shall promptly supply the revised version(s) to AHRI. Version numbers shall comply with the following:

- Version shall be in increasing numerical order so that the revision level can be determined by AHRI;
- Version shall match the number listed on the performance output data sheet generated from the Selection Rating Software and the Directory; and
- Version shall be tied to ratings; if any ratings are changed, a new version of the application shall be issued.

Once the Participant notifies AHRI that the Primary Catalog / Selection Rating Software has been successfully installed, AHRI shall grant approval of the Selection Rating Software within seven (7) calendar days. Upon approval from AHRI, the Participant may release the Primary Catalog / Selection Rating Software to other users.

3.8.4 Statements Regarding Certification. The Mark shall be included on the Catalog / Selection Rating Software outputs for certified units.

All Primary Catalogs and Selection Rating Software outputs from an approved Primary Catalog / Selection Rating Software shall include one of the following statements:

3.8.4.1 For Units Within the Scope of the Program that are only certified to AHRI Standard 1360 (I-P). “Certified in accordance with the AHRI Datacom Cooling Certification Program at AHRI Standard 1360 (I-P) Standard Rating Conditions. Certified units may be found in the AHRI Directory at [www.ahridirectory.org](http://www.ahridirectory.org).”

3.8.4.2 For Units Within the Scope of the Program that are certified to both AHRI Standard 1360 (I-P) and ASHRAE Standard 127-2007. “Certified in accordance with the AHRI Datacom Cooling Certification Program at AHRI Standard 1360 (I-P) and ASHRAE Standard 127-2007 Standard Rating Conditions. Certified units may be found in the AHRI Directory at [www.ahridirectory.org](http://www.ahridirectory.org).”

3.8.4.3 For Applications or Units Outside the Scope of the Program, but inside the scope of AHRI Standard 1360 (I-P) and ASHRAE Standard 127-2007. “Application or unit is outside of the scope of AHRI Datacom Cooling Certification Program, but is rated in accordance with AHRI Standard 1360 (I-P) and ASHRAE Standard 127-2007.”

3.9 Tested, Certified, Regulated, and Reported Ratings. The following certified ratings are verified by test (in accordance with the applicable Standard) and reported to the relevant regulatory body (DOE or CEC).

3.9.1 ASHRAE Standard 127-2007 Tested and Certified Ratings. AHRI tests and certifies the following ratings accordance with ASHRAE Standard 127-2007 at Rate Cooling Test A.

- Net Sensible Cooling Capacity, kW
- Sensible Coefficient of Performance Rating (SCOP), W/W

3.9.2 AHRI Standard 1360 (I-P) Tested and Certified Ratings. AHRI tests and certifies the following ratings accordance with AHRI Standard 1360 (I-P) at Standard Rating Conditions.

- Net Sensible Cooling Capacity, kW
- Net Sensible Coefficient of Performance Rating (NSenCOP), kW/kW
- Operability at 125.6°F (52.0°C) for specific units listed as such in the Directory.

<b>Table 3. Tested, Certified, Regulated, and Reported Ratings</b>					
<b>Standard Model<sup>2</sup></b>	<b>AHRI Type<sup>3</sup></b>	<b>Applicable Standard Ratings<sup>4</sup></b>	<b>AHRI Certified</b>	<b>Reported to DOE and/or CEC<sup>7</sup></b>	<b>Reported to SASO<sup>7</sup></b>
Down-flow Unit Up-flow Unit – Ducted Up-flow Unit – Non-Ducted	CSP-A CSP-A-FC CRCU-A CRCU-A-FC	AHRI Standard 1360 (I-P)	X	NA	X
	CSPS-A CSPS-A-FC CSP-W <sup>5</sup> CSP-W-FC <sup>5</sup>	ASHRAE Standard 127-2007	X	X	NA
Down-flow Unit Up-flow Unit – Ducted Up-flow Unit – Non-Ducted	CFC-C	AHRI Standard 1360 (I-P)	X	NA	NA
Horizontal-flow Unit	CSP-A CSP-A-FC CRCU-A CRCU-A-FC CSPS-A CSPS-A-FC CFC-C CSP-W <sup>5</sup> CSP-W-FC <sup>5</sup>	AHRI Standard 1360 (I-P)	X	NA	X
Ceiling mounted Unit–Ducted Ceiling mounted Unit–Nonducted					NA
Down-flow Unit Up-flow Unit – Ducted Up-flow Unit – Non-Ducted	CSP-W <sup>6</sup> CSP-W-FC <sup>6</sup>	ASHRAE Standard 127-2007	NA	X	NA
Horizontal-flow Unit	CSP-W <sup>6</sup> CSP-W-FC <sup>6</sup>	AHRI Standard 1360 (I-P)	NA	NA	X
Ceiling mounted Unit–Ducted Ceiling mounted Unit–Nonducted					NA
<b>Notes:</b> 1. NA: Not Applicable 2. Standard Models are defined in Section 3 of AHRI Standard 1360. 3. AHRI Types are described in Table 1 of AHRI Standard 1360. 4. Refer to Sections 3.9.1 and 3.9.2 for applicable standard ratings. 5. Water-cooled units only. 6. Glycol-cooled units only. 7. AHRI will report performance of CDPR units that are regulated by Department of Energy (DOE) Californian Energy Commission (CEC), and/or when requested to Saudi Arabian Standards Association (SASO).					

3.10 Test Failures.

3.10.1 Options Following 1<sup>st</sup> Sample Failure. When the Participant is notified of a first sample certified rating failure, the Participant has seven (7) calendar days to select one of the following options:

- Re-rate all models within the failed sample’s BMG proportionate to the failed test’s results. For air-cooled BMGs that fail the High Temperature Operation (Cooling) test, all models in the failed sample’s BMG shall be designated unable to operate at 52°C Ambient in the AHRI Directory
- Test second sample of the same model (sample shall be available within the timeframe and procedure allotted in Section 3.7 following notification of decision to AHRI via Manufacturer’s Decision Form [MDF]); or
- Obsolete the model, which also obsoletes all models within the corresponding BMG.

3.10.2 Options Following 2<sup>nd</sup> Sample Failure. When the Participant is notified of a second sample certified rating failure, the Participant has seven (7) calendar days to select one of the following options:

- Re-rate all models within the failed sample’s BMG proportionate to the failed test’s results. For air-cooled BMGs that fail the High Temperature Operation (Cooling) test, all models in the failed sample’s BMG shall be designated unable to operate at 52°C Ambient in the AHRI Directory; or
- Obsolete the model, which also obsoletes all models within the corresponding BMG.

**4. Challenge Tests**

Refer to Section 10 of the AHRI General Operations Manual.

**5. AHRI Directory of Certified Product Performance**

All certified products shall be listed in the Directory, [www.ahridirectory.org](http://www.ahridirectory.org). Certification shall not be implied nor claimed for any product not listed in the Directory. Except as noted below, the Participant shall follow the steps outlined in Section 11 of the AHRI General Operations Manual.

5.1 Publication of Ratings in Certified Directory. The following information pertaining to each model certified shall be submitted by the Participant as defined by Table 4:

<b>Table 4. Submitted Certification Data</b>				
Information	Published in Directory	Reported To		
		DOE	CEC	SASO
AHRI Certified Reference Number <sup>c</sup>	Yes			
Model Status <sup>c</sup>	Yes			
Manufacturer Name	Yes	X	X	X
Brand Name	Yes	X	X	X
System Type <sup>c</sup>	Yes	X	X	X
Model Number	Yes	X	X	X
Primary Catalog / Selection Software Name and Version	Yes			
Condenser or Evaporator Coil Model Number (where the compressor is not located)	Yes	X	X	X
AHRI 1360 Standard Model <sup>c</sup>	Yes			X
ASHRAE 127-2007 Air Discharge Configuration <sup>c</sup>	No	X	X	
ASHRAE 127-2007 Airflow Rate, scfm <sup>c</sup>	No	X		
Basic Model Group ID <sup>c</sup>	No			
Country of Origin <sup>c</sup>	Yes			

Table 4 (continued). Submitted Certification Data				
Information	Published in Directory	Reported To		
		DOE	CEC	SASO
Sold In? (USA, Canada, Saudi Arabia, Sold Outside USA, Canada, and Saudi Arabia) <sup>c</sup>	No	X		
Sold in California? (Yes, No) <sup>c</sup>	No		X	
CEC Equipment Type <sup>c</sup>	No		X	
Energy Source for Heating <sup>c</sup>	No		X	
Voltage (V) <sup>c</sup>	Yes		X	
Phase <sup>c</sup>	Yes		X	
Frequency (Hz) <sup>c</sup>	Yes			
Fluid Economizer <sup>c</sup>	No	X	X	
Refrigerant <sup>c</sup>	Yes			
Refrigerant Type <sup>c</sup>	No		X	
Compressor Motor Design <sup>c</sup>	No		X	
AHRI 1360 Net Sensible Cooling Capacity, kW <sup>c</sup>	Yes			X
AHRI 1360 Net Sensible Coefficient of Performance (NSenCOP), kW/kW <sup>c</sup>	Yes			X
Unit is capable of operation at 52°C Ambient? (Yes, No) <sup>c</sup>	Yes			X
ASHRAE 127-2007 - Net Total Cooling Capacity at Rated Cooling Test A (kW) <sup>c</sup>	No	X		
ASHRAE 127-2007 - Net Sensible Cooling Capacity at Rated Cooling Test A (kW) <sup>c</sup>	No	X	X	
ASHRAE 127-2007 - Electric Input at Rated Cooling Test A, kW <sup>c</sup>	No		X	
ASHRAE 127-2007 - Sensible Coefficient of Performance (SCOP) at Rated Cooling Test A, kW/kW <sup>c</sup>	No	X	X	
Regulatory Status <sup>c</sup>	No		X	
Does this model use an AEDM? <sup>c</sup>	No	X		
AEDM name or identifier <sup>c</sup>	No	X		
Test Sample Size <sup>c</sup>	No	X		
Test Waiver <sup>c</sup>	No	X		
Test Waiver Date <sup>c</sup>	No	X		
Exception Relief <sup>c</sup>	No	X		
Exception Relief Date <sup>c</sup>	No	X		
Basic Model (Yes or No) <sup>c</sup>	No	X		
Basic Model Number <sup>c</sup>	No	X		
Is basic model engineered-to-order? <sup>c</sup>	No	X		
Witness test option for DOE verification testing? <sup>c</sup>	No	X		
Customs and Border Protection (CBP) Importer ID <sup>c</sup>	No	X		
Supplemental testing instructions PDF filename	No	X		
Notes:				
a. Published listing information may be viewed in the public portion of the Directory at <a href="http://www.ahridirectory.org">www.ahridirectory.org</a> .				
b. Listing information not published may only be viewed by the Participants corresponding to that listing.				
c. Information is linked between OEM and PBM listings.				

5.2 *Publication of Ratings in Manufacturers Technical Literature.* At a minimum, published ratings shall comply with Section 7 of the Standard.

5.3 *Changes to Directory Listings.* AHRI shall be informed of changes to certified products prior to such changes being implemented. The Participant shall submit the following to AHRI for approval:

- Updated Primary Catalog / Selection Rating Software that includes the updated performance.

AHRI shall grant approval of the submitted changes within seven (7) calendar days.

## **6. Assessment and Payment of Certification Fees**

Except as noted below, the assessment and payment of certification fees shall proceed according to the AHRI General Operations Manual, Section 12.

## **7. Issuance of Violations and/or Termination**

Refer to Section 14 of the AHRI General Operations Manual.

## **8. Program Hierarchy, Complaints, and the Appeals Process**

Refer to Section 15 of the AHRI General Operations Manual.

## **9. AHRI Verification and Validation of Published Ratings**

9.1 *Published Rating Verification.* AHRI provides verification of Published Ratings to all legitimate parties. Verifications shall only be made on jobs in which the Primary Catalog / Selection Rating Software implemented by the user matches that of the Primary Catalog / Selection Rating Software shown in the AHRI Directory. All requesters shall provide the following information before verifications are completed:

- Name of the Requester;
- Affiliation of the Requester;
- Contact information of the Requester (email, phone number);
- Original job submittal with the job name;
- Performance provided in accordance with Section 3.8.1; and
- If available, the Manufacturer representative that provided the selection.

9.2 *Published Rating Validation.* Published Ratings are subject to validation to confirm compliance with the Program requirements at the time of publication.



## 10. Facility Availability Requirements

10.1 Purpose. To promote participation in and the integrity of this Program, Participants may make available Facilities for Participants not having the ability to test products which they wish AHRI to certify.

10.2 Definitions.

10.2.1 Facility Provider. A Participant who is allowing the use of their test facility by another Participant for certification testing.

10.2.2 Facility User. A Participant who is using another Participant's test facility for certification testing.

10.3 Requirements.

10.3.1 AHRI. AHRI shall request approval from the Facility Provider and Facility User to determine the location and date of each test and shall promote the equal distribution of testing among all Program Participant's test facilities by global region (China, Europe, India, Middle East, North America).

Use of each Facility shall be limited to the capacity and operational limits established during AHRI's inspection.

10.3.2 Facility Provider. If the Facility Provider approves use of their test facility for certification testing, the Facility Provider shall:

- Allow AHRI Certification testing of Facility User's units at AHRI approved test facilities within 120 days of notification by AHRI;
- Permit Test Facility Users to witness the testing in accordance with the Program Governing Documents. All data, test results, calculations, reports, information and other documents gathered or prepared by Facility Provider become the property of AHRI in accordance with the Program License Agreement and shall be removed (i.e. deleted and destroyed) from the records of the Facility Provider immediately after it has been provided to AHRI;
- Operate the Facility when conducting testing to be witnessed by the Representative. The Facility User shall not be permitted to participate in the operation of the Facility during test but may supervise the operation and adjustment of the unit; and
- Invoice the Facility User testing fees of 1.5 times the fees of the Laboratory contracted by AHRI to conduct testing in the region of the Facility.

10.3.3 Facility User. If the Facility User approves testing at the Facility Provider's facility, the Facility User shall:

- Schedule AHRI Certification testing at AHRI approved test facilities a minimum of 60 days prior to testing; and
- Provide installation and setup instructions a minimum of 30 days prior to testing; and
- Pay invoiced Facility User testing fees.

The Facility User may provide personnel to witness the setup, testing, and tear down of the unit. These personnel shall be escorted at all times by the Facility Provider.