PREFACE

The following manual outlines the procedures and policies of the Performance Certification Program for Forced-Circulation Air-Cooling and Air-Heating Coils (ACHC) 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.

The ACHC Certification Program by AHRI provides for independent verification of the Forced-Circulation Air-Cooling and Air-Heating Coils 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 ACHC 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.

Note:

## CERTIFICATION OPERATIONS MANUAL FOR

FORCED-CIRCULATION AIR-COOLING AND AIR-HEATING COILS

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1. Program Overview


1.2 **Product Definitions.**

1.2.1 **Forced-Circulation Air Coil.** A factory-made assembly which provides the functions of cooling, heating, or cooling and heating for use in an air stream whose circulation is caused by a difference in pressure produced by a fan or blower.

1.2.1.1 **Forced-Circulation Air-Cooling Coil.** A heat exchanger, with or without extended surfaces, through which either cold water, cold aqueous ethylene or propylene glycol solutions, or volatile refrigerant is circulated, for the purpose of total cooling (sensible cooling plus latent cooling) of a forced-circulation air stream.

1.2.1.2 **Forced-Circulation Air-Heating Coil.** A heat exchanger, with or without extended surfaces, through which either hot water, hot aqueous ethylene or propylene glycol solutions, or steam is circulated for the purpose of sensible heating of a forced-circulation air stream.

1.2.2 **Packaged Unit.** An assembly of components including coil(s) with ratings based on a test of the complete assembly.

1.2.3 **Special Coil.** Coils of fin or tube material of special configuration not having cataloged performance data

1.2.4 **Turbulators.** Mechanical devices inside tubes used to increase turbulence of fluids.

1.3 **Program Scope.** This program applies to Forced-Circulation Air-Cooling Coils under non-frosting conditions and Forced-Circulation Air-Cooling and Air-Heating Coils, as defined in Section 1.2, only intended for:

- Field installation (built-up systems and duct-mounted coils); and
- Use in central station air-handling units.

1.3.1 **Program Scope Exclusions.** This certification program does not include:

- Coils installed in Packaged Units;
- Special Coil;
- Products certified under AHRI's Room Fan-Coil Units (ANSI/AHRI Standard 440) Certification Program; or
- Products certified under AHRI’s Unit Ventilators (AHRI Standard 840) Certification Programs.

1.4 **Intended Market.** The Intended Market for this certification program, where the Standard applies, includes all products defined in Section 1.3 that are sold for use in the U.S. and Canada (U.S., U.S. Territories, and Canada).

1.5 **Exception to Certify-All Rule.** The Participant may exclude some coil lines from certification, provided it complies with provisions in Section 3.8.4. Unless certification is clearly claimed only for certified lines, non-certified coil lines shall not be included in the same published literature as those certified.
Participants shall ensure that certified Basic Model Groups (BMGs) have separate model number(s) and/or designation(s) than non-certified BMGs to avoid marketplace confusion. It is a violation of the program if any Participants markets certified product as non-certified that have the same model number(s) and/or designation(s). AHRI certified units shall be a different model number and that model number shall always be sold as certified. It is permissible for a Participant to have another set of model numbers for uncertified units as long as certification is not implied or claimed.

1.6 *Basic Model Groups (BMGs).* A Participant’s listing shall be grouped by BMG. Minimum parameters to be used for defining BMGs are fin configuration, tube diameter and spacing, tube internal construction, and fluid type. For example, coils with the same tube diameter and spacing, same fin configuration, and same fluid type constitutes a BMG. Table 1 is an example of defining a BMG.

<table>
<thead>
<tr>
<th>Number of Options (Offered by the Manufacturer)</th>
<th>Coil Line Designation</th>
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<tbody>
<tr>
<td></td>
<td>A</td>
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<tr>
<td>Fin Configuration</td>
<td>1</td>
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<tr>
<td>Tube Diameter and Spacing</td>
<td>1</td>
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<td>Tube Internal Design</td>
<td>1</td>
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<tr>
<td>Fluid Type</td>
<td>1</td>
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<tr>
<td>Basic Model Groups w/in Each Coil Line</td>
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Notes:
1. Lines "E" and "F" show two types of fins. (Ex. continuous flat plate fins and crimped spiral fins)
2. Tube O.D. and Tube spacing across coil face (Stf) by Tube spacing in the direction of air flow (Str)
3. Basic Model Groups = (# of Fins) * (# of Tubes Diameter and Spacing) * (# of Tube Internal Design) * (# of Fluid Types)

1.6.1 *Fluid Types.* The following fluid types may be certified within the ACHC Certification Program:

- Cold Water;
- Hot Water;
- Ethylene Glycol;
- Propylene Glycol;
- Steam;
- R-22;
- R-134a;
- R-407C; and
- R-410A.

When calculating BMGs, a Participant may combine cold water and ethylene glycol for cooling, or hot water and ethylene glycol for heating together under one fluid type. Cold water and hot water may, at the Participant’s discretion, be grouped together. All such chosen grouping shall be clearly indicated on requisite forms. Hot water, cold water and ethylene glycol cannot all be combined in the same BMG.
1.6.2 Optional BMG Subdivision. The Participant may further subdivide its BMGs provided that this is clearly indicated on requisite forms. AHRI may request supporting documentation at its discretion. The following are examples of additional parameters, which may be used to subdivide BMGs:

- Number of rows;
- Construction variation; and/or
- Other prudent engineering reasons.

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 and Annual Sales Volume Form noted in the AHRI General Operations Manual, Section 4, STEP 4.1, Applicants shall submit the following documentation to AHRI:

- Form ACHC-DS1 (refer to Section 3.2);
- ASHRAE Form 33TD – 1 (refer to Section 3.2);
- One test report for each BMG (refer to Section 3.2);
- Copy of the nameplate data for of the submitted Applicant model designations;
- Copy of Applicant’s Selection Rating Software (refer to Section 3.8); and
- Copy of Applicant’s Catalog. If Applicant does not use Selection Rating Software they shall submit a link to an electronic catalog on the manufacturer’s website. Catalog number and issue date or code shall be included on the publication. Certified and non-certified equipment shall not be in the same catalog;
  - 410 Rating Calculation Procedure Forms. If Applicant does not use Selection Rating Software they shall submit all applicable forms (refer to Appendix D).

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.

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 up to the next whole number. (Example: 30% of 11 BMGs is 3.3 so the Applicant shall have 4 tests.)

STEP 2.1.3.2 Acquisition of Qualification Test Samples/Selection Criteria. Within 30 calendar days of a request from AHRI, the Applicant shall have samples available for selection. Samples shall be acquired in accordance with Section 3 of this manual.
STEP 2.1.4 Qualification Testing. AHRI shall supply the Independent Third-party Laboratory Contracted by AHRI (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 qualification testing. PBM product certification is contingent upon the certification of the associated OEM product.

   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:

   - Certified product data sheets noting PBM/OEM equipment match-ups; and
   - Copy of Applicant’s Selection Rating Software (refer to Section 3.8).

   STEP 2.2.2 Processing Application Package.

   STEP 2.2.2.1 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 2.2.2.2 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 2.2.2.3 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. 30% of a Participant’s BMGs shall be tested annually, with a minimum of two (2) models. Fractional numbers shall be rounded up to the next whole number. (Example: 30% of 11 BMGs is 3.3 so the Participant shall have 4 tests.)

3.2 Requirement for Introduction of New BMG. Prior to being listed in the AHRI Directory of Certified Product Performance (Directory), any new BMG introduced by the Participant shall submit pertaining documentation (refer to Section 2.1 STEP 1). Such documentation shall be prepared in accordance with the following procedure:

3.2.1 Product Information. The Participant shall supply information for all models in the BMG in accordance with the applicable Standards and the following requirements.

3.2.1.1 Form ACHC-DS1, Product Data Submittal Package. The Participant shall complete this worksheet to accurately reflect all products which are intended for certification in AHRI’s 410 Certification Program. The Excel workbook shall be completed correctly, in its entirety and returned to AHRI, before any sample selections for testing can be made. This form shows how the Participant’s data shall be shown in the Directory.

3.2.1.1.1 Adding a New Single-Phase Fluid to an Existing Coil Line Exception. Existing Participants adding new single-phase fluid to an existing coil line are exempt from submitting Form ACHC-DS1. In lieu of this requirement, the Participant shall enter data directly into the Directory. Submissions are subject to approval by AHRI staff. Refer to Section 3.8 for software requirements.

3.2.1.2 ASHRAE Form 33TD – 1, Coil Physical Data. Refer to ASHRAE Standard 33.

3.2.2 Generation of Ratings. The Participant shall generate ratings for all models in the BMG in accordance with the Standard and the following requirements. The test capacity shall not be less than 97.5% and the test pressure drop shall not be greater than 105% of the Published Ratings. Coil Inputs for each BMG shall be submitted on Form ACHC-DS2 (refer to Appendix A).

3.2.2.1 Liquid Cooling Coils (Water, Glycol). The basic rating point shall be conducted at the following conditions:

- Entering Air Temperature, 80°F dry-bulb/67°F wet-bulb;
- Air Face Velocity, 500 feet per minute (fpm);
- Entering Fluid Temperature, 45 °F;
- Leaving Fluid Temperature, 55 ± 2°F;
- Fluid Velocity, between 2 and 6 feet per second (fps); and
- Glycol Concentration, 50 percent by mass.

3.2.2.2 Liquid Heating Coils (Water, Glycol). The basic rating point shall be conducted at the following conditions:

- Entering Air Temperature, 60°F dry-bulb;
- Air Face Velocity, 500 fpm;
- Entering Fluid Temperature, 180°F;
- Leaving Fluid Temperature, 150 ± 10°F;
- Fluid Velocity, between 2 and 6 fps; and
- Glycol Concentration, 50 percent by mass.
3.2.2.3 **Steam Coils.** The basic rating point shall be conducted at the following conditions:

- Entering Air Temperature, 60°F dry-bulb;
- Air Face Velocity, 500 fpm; and
- Steam Pressure, 5 psig.

3.2.2.4 **Volatile Refrigerant Coils.** The basic rating point shall be conducted at the following conditions:

- Entering Air Temperature, 80°F dry-bulb/67°F wet-bulb;
- Air Face Velocity, 500 fpm;
- Refrigerant Suction Temperature, 45°F;
- Superheat, 10°F; and
- Refrigerant Liquid Temperature Entering Expansion Valve, 110°F ± 10°F

3.2.3 **Data to be Submitted with the Certification Application Package.** The manufacturer shall submit sufficient data and calculations to show that the submitted ratings have been generated in accordance with Section 3.2.1. Test data and calculation for all tests are to be submitted on the appropriate forms:

- Water Coils – ASHRAE 33TD-3;
- Glycol – ASHRAE 33TD-5;
- Steam Coils – ASHRAE 33TD-4; and

3.3 **Location of Tests.** Testing shall be performed at the Laboratory and the sample shall be installed in the test facility in accordance with the Participant’s published installation instructions in printed or electronic format.

3.4 **Selection of Test Samples.** AHRI shall utilize the Participant’s AHRI approved Selection Rating Software to select sample(s), using the Build-To-Specifications Sample Selection method, which operates within the Range of Standard Rating Conditions listed in Table 1 of the Standard. If no Selection Rating Software is available, AHRI shall utilize the Participant’s published catalog which shall be available on the Participant’s website. Refer to Section 9 of the AHRI General Operations Manual.

3.5 **Method of Acquiring Test Samples.** Selected samples shall be supplied to the Laboratory in accordance with Appendix C.

3.6 **Sample Acquisition Timeframe.** Upon notification of selections by AHRI, the Participant shall have 30 calendar days to deliver selected sample(s) to the Laboratory.

3.7 **Changes to Operating Conditions Profile Prior to Test.** To ensure random selection of sample, the profile entering a given sample may be changed after the original selection of the sample by AHRI, prior to testing. The new profile shall be applicable to the selected sample per the Selection Rating Software and shall be selected by AHRI.

3.8 **Selection Rating Software**

3.8.1 **Requesting Approval of Rating Methods.** A Participant shall request approval of its Selection Rating Software by submitting all of the following to AHRI:

- Selection Rating Software shall be either personal computer (PC) based, run on MS Windows® platform, or web-based software and allow for selection of any certified product at any application rating condition per the latest edition of the Standard;
• Provide outputs for:
  – Model Number;
  – Certified Data (Refer to Section 3.9);
  – Fin configuration;
  – Tube diameter and spacing;
  – Version number or other revision coding;
  – Proper claims to AHRI Certification (Refer to Section 3.8.4);
• All necessary passwords to access software and updates;
• Instructions for use of the Selection Rating Software; and
• A copy of the Participant(s) published catalog, if applicable.

The Selection Rating Software shall meet the requirements set forth in Section 9. If the Participant has more than one (1) Selection Rating Software available to users, each program shall be verified by AHRI.

3.8.1.1 Installation of Selection Rating Software. AHRI shall provide the Participant with a login/password to a personalized Virtual Machine (VM) to install their 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 Selection Rating Software has been successfully installed, AHRI shall grant approval of the Selection Rating Software within seven (7) calendar days.

3.8.2 Initial Approval of Selection Rating Software through Published Rating Comparison. AHRI upon receiving the necessary materials shall, if applicable, utilize the Participant’s Selection Rating Software to determine computer ratings for a certain set of conditions. The Selection Rating Software output (printout and on-screen display) shall meet requirements outlined in Section 9. AHRI may also request selection sheets from customers who have received bids. These selection sheets shall match the Selection Rating Software output.

The Participant shall be notified when the selection rating software has been approved for certification. Upon approval from AHRI, the Participant may release the software to other users. Selection rating software released to other users prior to obtaining AHRI approval shall result in a program violation. Also, the Selection Rating Software shall be approved by AHRI prior to field release.

3.8.3 Updates to Previously Approved Software. Per the AHRI General Operations Manual, Section 9, AHRI shall have an updated copy of any software being used in the field. Any updates shall promptly be provided to AHRI via installation to the Participant’s VM. Major changes to software shall go through an Initial Approval as per Section 3.8.2 and adhere to the requirements in Section 7.2.3. The Directory shall be locked and Participants shall not be allowed to make changes to Selection Rating Software version updates until the Participant has obtained approval from AHRI.

3.8.4 Statements Regarding Certification. When possible, for units within the scope of the program, the Mark should be included on the Selection Rating Software outputs for certified units in accordance with the AHRI Brand Usage Manual.

All Selection Rating Software outputs from an approved Selection Rating Software shall include one of the following statements:

3.8.4.1 For Units within the Scope of the Program. “Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.”
3.8.4.2 **For Units Outside the Scope of the Program.** “Coil is outside of the scope of AHRI Standard 410.”

3.8.4.3 **For Non-Certified Units within the Scope of the Program.** “Coil is NOT certified by AHRI.”

3.9 **Certified Data.** In accordance with the Standard, at operating conditions designated by AHRI, the following certified ratings are verified, by test:

- Average cooling or heating capacity, Btu/h [W];
- Sensible cooling capacity, Btu/h [W];
- Air pressure drop through coil at standard air density, in H2O [kPa]; and
- Water or aqueous glycol solution pressure drop through coil (including headers) at average fluid density, ft of fluid [m of fluid].

3.10 **Test Failures.**

3.10.1 **Options Following First 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:

- Claim the sample Defective, as described in the AHRI General Operations Manual, Section 9;
- Re-rate all models within the failed sample’s BMG proportionate to the failed test’s results. Refer to Section 3.11 for the Software re-rate procedure;
- Test second sample of the same model (sample shall be available within the timeframe and procedure allotted in Section 3.5 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.

The Participant shall also complete the “Reasons for Failures” section of the Manufacturer’s Decision Form by selecting one of the following options and explaining the reason for failure.

- Manufacturing Error;
- Software Error; and
- Other Error.

3.10.2 **Options Following Second 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:

- Claim the sample Defective, as described in the AHRI General Operations Manual, Section 9;
- Re-rate all models within the failed sample’s BMG proportionate to the failed test’s results. Refer to Section 3.11 for the Software re-rate procedure; or
- Obsolete the model, which also obsoletes all models within the corresponding BMG.

3.11 **Re-rate Procedure.** Re-rates will be reflected on the Directory for one (1) year as a footnote and in the display of the affected BMG on the search page. The note will reference the software (or catalog) name and version in which selections were made. Software or literature updates need to be made within 60 calendar days. Note that the software shall be installed on the designated VM and functional within that timeframe. Participants shall notify AHRI when the software has been revised. Additionally, Participants shall provide the following information to prove compliance:
Computer output for the failed unit in the revised Software;
Computer outputs for two (2) additional units in the same BMG, at conditions within the Range of Standard Rating Conditions listed in Table 1 of the Standard, in both the old and revised versions of Software;
Form ACHC-DS3, Re-rate Check Worksheet (Refer to Appendix A); and
Revised Selection Rating Software name and version number.

The percent difference in the failed rating, between the old and new Software Rating Software versions, must meet or exceed the percentage by which the model failed.

AHRI shall review the re-rate submission package and shall grant access to the Participant to install the revised software on the VM. The Participant shall notify AHRI as soon as the Selection Rating Software is fully operational. A re-rate is considered to be a major change and Selection Rating Software shall go through an Initial Approval as per Section 3.8.2

3.12 Consequences for Improper Ratings.


4. Challenge Tests

Except as noted below, the Challenge Test process shall proceed according to the AHRI General Operations Manual, Section 10.

4.1 Procedure for Initiating a Challenge. Specification sheet verifications should be requested prior to the initiation of a challenge. In addition to the requirements noted in the AHRI General Operations Manual, Section 10, the challenger shall provide AHRI with:

- Form ACHC-DS2, Coil Inputs Form (refer to Appendix A); and
- A copy of the selection sheet showing the disputed ratings of a unit listed in the Directory or a copy of the disputed ratings published by the manufacturer (for products that are not AHRI-certified).

4.2 Selection Software Verification of Challenged Product. Within seven (7) calendar days of the date the challenge is presented to AHRI, the challenged party’s selection software shall be locked and official challenge verification shall be run. If the software has already been corrected by the challenged party, the verification shall be performed in the new software. If the verification shows a re-rate of the challenged product, the challenger has the option to challenge the re-rated data or drop the challenge.

4.3 Obtaining Equipment for a Challenge Test. AHRI shall approach the challenged party to obtain a sample. It shall be necessary to reveal that a product rating has been challenged; however, AHRI shall not divulge the name of the challenger.
5. AHRI Directory of Certified Product Performance

All certified products shall be listed in the Directory, 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 published in the Directory:

- AHRI Certified Reference Number;
- Name of Manufacturer;
- Model Status;
- Brand Name of Model;
- Model Number(s) or Designation(s);
- Fluid(s) Used;
- Fin Configuration;
- Tube Outer Diameter;
- Tube Spacing;
- Internal Construction;
- Catalog Name and Issue Date/Code; and
- Selection Rating Software Name and Version Number.

5.2 **Data Forms.** Each Participant shall list its products by BMG on the Directory. Each unique model listing shall be assigned a unique AHRI reference number. Specific BMG numbers and groupings shall not be published on the Directory. Participants shall supply certified model listings to AHRI via the Directory. OEM and PBM Participants shall submit/edit product data via the Directory or data submittal sheets, as applicable.

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.

6.1 **Equipment Delivery/Disposal Fees.** The Participant is responsible for the delivery and expenses associated with shipping test samples to and from the Laboratory. Following the completion of the test, the Participant shall provide instruction to the Laboratory regarding the disposal/shipment of the sample(s). The Laboratory shall invoice the Participant for expenses associated with the disposal/shipment of the sample from the Laboratory’s facility to a location designated by the Participant.

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. Proper Use of the AHRI Certification Mark and Claims to Certification

Refer to the AHRI Brand Usage Manual.

9.1 Publication of Non-Certified Ratings. Some products certified through the AHRI ACHC Certification Program may be capable of operation at conditions outside the scope of the certification program. Participant’s printed materials and Selection Rating Software may contain non-certified ratings; however it shall be clearly indicated that such ratings are outside the scope of the AHRI ACHC Certification Program and shall comply with all requirements in Section 3.8.4.


9.2.1 Random Comparisons. AHRI shall make random comparisons of the catalog ratings, if applicable, and the Selection Rating Software as a further check procedure to guard against a Participant using software not approved by AHRI.

9.2.2 Additional Monitoring. AHRI may request Participants, users, consulting engineers, etc. to submit copies of specific job conditions and ratings that they have utilized. Additionally, parties may request that AHRI verify certification of product ratings. AHRI shall compare the ratings with the results obtained through use of the Participant’s Selection Rating Software. Comparison shall only be made on jobs in which the Selection Rating Software implemented by the user matches that of the verified rating method, including issue date or code, of the current software held by AHRI. AHRI provides verification services to all legitimate parties. 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;
- Manufacturer representative that provided the selection; and
- Form ACHC-DS2 (refer to Appendix A).

9.2.3 Responsibility of Participant for Catalog/Software Revisions. Whenever a Participant’s catalog and/or Selection Rating Software are revised, the Participant shall promptly supply the revised version(s) to AHRI. The Participant’s software shall comply with the following:

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

Once the Participant notifies AHRI that the 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 software to other users. Selection Rating Software released to other users prior to obtaining approval from AHRI shall result in a program violation. The Directory shall be locked and Participants shall not be allowed to make changes to Selection Rating Software version updates until the Participant has obtained approval from AHRI.
9.2.4  **Data in Rating Software and Catalogs.** Any published catalog shall make reference to the version number of the Selection Rating Software to which it corresponds.

If, at any time, the referenced catalog or Selection Rating Software does not correspond to the version listed in the Directory, the Participant shall be issued a program violation notifying them of the discrepancy and shall have 60 calendar days to resolve the discrepancy.
APPENDIX A
Data Sheets

A.1 ACHC-DS1, ACHC Certification Program Data Submittal. Complete this worksheet to provide information and data for each model certified shall be published in the Directory.

Electronic form available for download from AHRI’s website.

A.2 ACHC-DS2, Coil Inputs Submittal.
- A2.1 Authorization to Test and Coil Requisition
- A2.2 Challenge Test
- A2.3 Qualification of new BMG
- A2.4 Request for Verification. Enter the same job conditions and inputs used to obtain the outputs you would like AHRI to verify. A copy of the output from the manufacturer’s computerized rating method must be submitted in conjunction with this form. All fields must be completed prior to submission.

Electronic form available for download from AHRI’s website.

A.3 ACHC-DS3, Re-rate Check Worksheet.
<Date>

Dear Certification Program Applicant:

Please be advised that the following sample, when tested under the AHRI Certification Program for Forced-Circulation Air-Cooling and Air-Heating Coils (ACHC), failed to perform in accordance with the latest edition of AHRI Standard 410, ForCirculation Air-Cooling and Air-Heating Coils. Test data is attached to this notification.

Manufacturer: ___________________________ AHRI Test #: ___________________________
Model: ___________________________ Date of Test: ___________________________
AHRI Reference #: ___________________________

Per program rules, following notification of a test failure the Applicant has seven (7) calendar days to elect one (1) of the following options. If a completed Manufacturer’s Decision Form is not received by AHRI within seven (7) calendar days, the Applicant forfeits the opportunity for further testing and all models within the Basic Model Group (BMG) shall be re-rated proportionate to the failed test’s results.

FOLLOWING A FAILURE, PLEASE CHOOSE ONE (1) OF THE FOLLOWING OPTIONS. THE OPTION CHOSEN MUST CORRESPOND TO THE OPTIONS AVAILABLE PER THE AHRI GENERAL OPERATIONS MANUAL AND THE ACHC CERTIFICATION PROGRAM OPERATIONS MANUAL.

☐ Defective Failure. The Applicant claims that defective part(s) and/or assemblies caused the test failure. Within 30 calendar days of returning this Manufacturer’s Decision Form to AHRI, the Applicant must provide AHRI with a detailed defect report stating the reason for the defective part(s) and/or assemblies. If AHRI agrees that the program’s definition of a defect has been met, AHRI shall notify the Applicant to supply new part(s) and/or assemblies, to replace only those that have been deemed defective, to the Independent Third-party Laboratory Contracted by AHRI (Laboratory). These new part(s) and/or assemblies must be supplied to the Laboratory within 14 calendar days of AHRI’s request to the Applicant to supply replacement parts. Failure to provide a defect report and/or new part(s) and/or assemblies by their respective deadlines shall forfeit the Applicant’s opportunity for a replacement test, thus automatically re-rating all models within the BMG proportionate to the failed test sample’s results.

The Applicant may send its own representative to install the replacement part(s) and/or assemblies or may request the Laboratory to perform the replacement. If the Applicant chooses to have the Laboratory install the replacements part(s) and/or assemblies, the Applicant may not claim improper installation of the part(s) and/or assemblies by the test lab.

Upon receipt of payment for the replacement test, the sample shall be re-tested with the replacement part(s) and/or assemblies installed. If the sample passes, the Applicant shall not be issued a first sample test failure. If the sample fails, the Applicant shall be issued a first sample failure and shall have the option to re-rate all models within the BMG proportionate to the failed test’s results, or perform a second sample test.

The Applicant is responsible for the costs associated with the installation of the replacement parts or assemblies, as well as the cost to re-test the sample. The Laboratory shall directly invoice the Applicant for the costs associated with the replacement part installation. Prior to conducting the re-test, AHRI shall invoice the Applicant for the cost of the test. Payment must be received within 30 calendar days from date of invoice. Failure to make payment within that timeframe shall forfeit the Applicant’s opportunity to claim defective, thus automatically re-rating all models within the BMG proportionate to the failed test’s results.
Re-rate. All models within the BMG shall be re-rated proportionate to the failed test’s results. These re-rates shall be reflected in the AHRI Directory of Certified Product Performance.

2nd Sample (Following 1st Sample Failure). The Applicant must have a 2nd sample available for selection within 30 calendar days from the date of this failure notification. Failure to present samples for selection within this timeframe shall forfeit the Applicant’s opportunity for a 2nd sample test, thus automatically re-rating all models within the BMG proportionate to the failed test’s results.

AHRI shall invoice the Applicant for the 2nd sample test prior to conducting the test. Payment must be received within 30 calendar days from date of invoice. Failure to make payment within that timeframe shall forfeit the Applicant’s opportunity to conduct a 2nd sample test, thus automatically re-rating all models within the BMG proportionate to the failed test’s results.

Reasons for Failure

- Manufacturing Error. Please list your reasons for failure regarding manufacturing errors:
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  ________________________________________________________________
  ________________________________________________________________

- Software Error. Please list your reasons for failure regarding software errors:
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- Other Error. Please list your reasons for failure regarding other errors:
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Changes to Literature (for Re-Rate):

Within 14 calendar days of this failure notification, the Applicant is required to advise AHRI of the steps being taken to correct advertising literature, specifications, software, etc.

Within 60 calendar days of this failure notification, the Applicant is required to have withdrawn all known advertising literature, specifications, software, etc. and to have submitted corrected publications/software to AHRI, distributors, dealers, and all other affected parties. The draft public notification of corrections, a copy of the distribution list of those to receive the notification and corrections, as well as a copy of the corrected publication(s)/software, must be reviewed by AHRI prior to dissemination to the public.

Failure to comply with program rules regarding publication/software correction shall result in a program violation.

To ensure the opportunity to preserve this BMG, please return this completed Manufacturer’s Decision Form via email or fax within seven (7) calendar days to the certification engineer noted below. More details on the above options can be found in the AHRI General Operations Manual and the ACHC Certification Program Operations Manual. The engineer can address any questions regarding the available options.

Laura Petrillo, Certification Engineer
Phone: (703) 524-8800, x335
Email: lpetrillo@ahrinet.org
Fax: (703) 562-1942
Thank you for your participation in the AHRI Certification Program.

*(Please complete all fields)*

- **Company:** ____________________________  **Date:** ____________________________
- **Submitted by:** ________________________  **Email:** ____________________________
  - **Print**
  - **Fax:** ____________________________  **Phone:** ____________________________
- **Signature:** ____________________________
- **Title:** ____________________________
MANUFACTURER’S DECISION FORM –
SECOND SAMPLE QUALIFICATION TEST FAILURE NOTIFICATION
AHRI CERTIFICATION PROGRAM FOR
FORCED-CIRCULATION AIR-COOLING AND AIR-HEATING COILS

<Date>

Dear Certification Program Applicant:

Please be advised that the following sample, when tested under the AHRI Certification Program for Forced-Circulation Air-Cooling and Air-Heating Coils (ACHC), failed to perform in accordance with the latest edition of AHRI Standard 410, Forced-Circulation Air-Cooling and Air-Heating Coils. Test data is attached to this notification.

Manufacturer: ___________________________  AHRI Test #: _______________________
Model: _________________________________  Date of Test: _______________________
AHRI Reference #: _______________________

Per program rules, following notification of a test failure the Applicant has seven (7) calendar days to elect one (1) of the following options. If a completed Manufacturer’s Decision Form is not received by AHRI within seven (7) calendar days, the Applicant forfeits the opportunity for further testing and all models within the Basic Model Group (BMG) shall be re-rated proportionate to the failed test’s results.

FOLLOWING A FAILURE, PLEASE CHOOSE ONE (1) OF THE FOLLOWING OPTIONS. THE OPTION CHOSEN MUST CORRESPOND TO THE OPTIONS AVAILABLE PER THE AHRI GENERAL OPERATIONS MANUAL AND THE ACHC CERTIFICATION PROGRAM OPERATIONS MANUAL.

Defective Failure. The Applicant claims that defective part(s) and/or assemblies caused the test failure. Within 30 calendar days of returning this Manufacturer’s Decision Form to AHRI, the Applicant must provide AHRI with a detailed defect report stating the reason for the defective part(s) and/or assemblies. If AHRI agrees that the program’s definition of a defect has been met, AHRI shall notify the Applicant to supply new part(s) and/or assemblies, to replace only those that have been deemed defective, to the Independent Third-party Laboratory Contracted by AHRI (Laboratory). These new part(s) and/or assemblies must be supplied to the Laboratory within 14 calendar days of AHRI’s request to the Applicant to supply replacement parts. Failure to provide a defect report and/or new part(s) and/or assemblies by their respective deadlines shall forfeit the Applicant’s opportunity for a replacement test, thus automatically re-rating all models within the BMG proportionate to the failed test sample’s results.

The Applicant may send its own representative to install the replacement part(s) and/or assemblies or may request the Laboratory to perform the replacement. If the Applicant chooses to have the Laboratory install the replacements part(s) and/or assemblies, the Applicant may not claim improper installation of the part(s) and/or assemblies by the test lab.

Upon receipt of payment for the replacement test, the sample shall be re-tested with the replacement part(s) and/or assemblies installed. If the sample fails, the Applicant shall not be issued a second sample test failure. If the sample fails, the Applicant shall be issued a second sample failure and shall have the option to re-rate all models within the BMG proportionate to the failed test’s results, or obsolete the model and its corresponding models within the BMG. Laboratory shall directly invoice the Applicant for the costs associated with the replacement part installation. Prior to conducting the re-test, AHRI shall invoice the Applicant for the cost of the test. Payment must be received within 30 calendar days from date of invoice. Failure to make payment within that timeframe shall forfeit the Applicant’s opportunity to claim defective, thus automatically re-rating all models within the BMG proportionate to the failed test’s results.

Re-rate. All models within the BMG shall be re-rated proportionate to the failed test’s results. These re-rates shall be reflected in the AHRI Directory of Certified Product Performance.
Reasons for Failure

☐ Manufacturing Error. Please list your reasons for failure regarding manufacturing errors:

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☐ Software Error. Please list your reasons for failure regarding software errors:

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☐ Other Error. Please list your reasons for failure regarding other errors:

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Changes to Literature (for Re-Rate):
Within 14 calendar days of this failure notification, the Applicant is required to advise AHRI of the steps being taken to correct advertising literature, specifications, software, etc.

Within 60 calendar days of this failure notification, the Applicant is required to have withdrawn all known advertising literature, specifications, software, etc. and to have submitted corrected publications/software to AHRI, distributors, dealers, and all other affected parties. The draft public notification of corrections, a copy of the distribution list of those to receive the notification and corrections, as well as a copy of the corrected publication(s)/software, must be reviewed by AHRI prior to dissemination to the public.

Failure to comply with program rules regarding publication/software correction shall result in a program violation.

To ensure the opportunity to preserve this BMG, please return this completed Manufacturer’s Decision Form via email or fax within seven (7) calendar days to the certification engineer noted below. More details on the above options can be found in the AHRI General Operations Manual and the ACHC Certification Program Operations Manual. The engineer can address any questions regarding the available options.

Laura Petrillo, Certification Engineer
Phone: (703) 524-8800, x335
Email: lpetrillo@ahrinet.org
Fax: (703) 562-1942

Thank you for your participation in the AHRI Certification Program.

(Please complete all fields)

Company: ___________________________ Date: ___________________________

Submitted by: ___________________________ Email: ___________________________

Print

Fax: ___________________________

Signature: ___________________________ Phone: ___________________________

Title: ___________________________
<Date>

Dear Certification Program Participant:

Please be advised that the following sample, when tested under the AHRI Certification Program for Forced-Circulation Air-Cooling and Air-Heating Coils (ACHC), failed to perform in accordance with the latest edition of AHRI Standard 410, ForcCirculation Air-Cooling and Air-Heating Coils. Test data is attached to this notification.

Manufacturer: ____________________________  AHRI Test #: ____________________________
Model: ________________________________  Date of Test: ______________________________
AHRI Reference #: ______________________________

Per program rules, following notification of a test failure the Participant has seven (7) calendar days to elect one (1) of the following options. If a completed Manufacturer’s Decision Form is not received by AHRI within seven (7) calendar days, the Participant forfeits the opportunity for further testing and all models within the Basic Model Group (BMG) shall be re-rated proportionate to the failed test’s results.

FOLLOWING A FAILURE, PLEASE CHOOSE ONE (1) OF THE FOLLOWING OPTIONS. THE OPTION CHOSEN MUST CORRESPOND TO THE OPTIONS AVAILABLE PER THE AHRI GENERAL OPERATIONS MANUAL AND THE ACHC CERTIFICATION PROGRAM OPERATIONS MANUAL.

☐ Defective Failure. The Participant claims that defective part(s) and/or assemblies caused the test failure. Within 30 calendar days of returning this Manufacturer’s Decision Form to AHRI, the Participant must provide AHRI with a detailed defect report stating the reason for the defective part(s) and/or assemblies. If AHRI agrees that the program’s definition of a defect has been met, AHRI shall notify the Participant to supply new part(s) and/or assemblies, to replace only those that have been deemed defective, to the Independent Third-party Laboratory Contracted by AHRI (Laboratory). These new part(s) and/or assemblies must be supplied to the Laboratory within 14 calendar days of AHRI’s request to the Participant to supply replacement parts. Failure to provide a defect report and/or new part(s) and/or assemblies by their respective deadlines shall forfeit the Participant’s opportunity for a replacement test, thus automatically re-rating all models within the BMG proportionate to the failed test sample’s results.

The Participant may send its own representative to install the replacement part(s) and/or assemblies or may request the Laboratory to perform the replacement. If the Participant chooses to have the Laboratory install the replacements part(s) and/or assemblies, the Participant may not claim improper installation of the part(s) and/or assemblies by the test lab.

Upon receipt of payment for the replacement test, the sample shall be re-tested with the replacement part(s) and/or assemblies installed. If the sample passes, the Participant shall not be issued a first sample test failure. If the sample fails, the Participant shall be issued a first sample failure and shall have the option to re-rate all models within the BMG proportionate to the failed test’s results, or perform a second sample test.

The Participant is responsible for the costs associated with the installation of the replacement parts or assemblies, as well as the cost to re-test the sample. The Laboratory shall directly invoice the Participant for the costs associated with the replacement part installation. Prior to conducting the re-test, AHRI shall invoice the Participant for the cost of the test. Payment must be received within 30 calendar days from date of invoice. Failure to make payment within that timeframe shall forfeit the Participant’s opportunity to claim defective, thus automatically re-rating all models within the BMG proportionate to the failed test’s results.

☐ Re-rate. All models within the BMG shall be re-rated proportionate to the failed test’s results. These re-rates shall be reflected in the AHRI Directory of Certified Product Performance.
☐ 2\textsuperscript{nd} Sample (Following 1\textsuperscript{st} Sample Failure). The Participant must have a 2\textsuperscript{nd} sample available for selection within 30 calendar days from the date of this failure notification. Failure to present samples for selection within this timeframe shall forfeit the Participant's opportunity for a 2\textsuperscript{nd} sample test, thus automatically re-rating all models within the BMG proportionate to the failed test's results.

AHRI shall invoice the Participant for the 2\textsuperscript{nd} sample test prior to conducting the test. Payment must be received within 30 calendar days from date of invoice. Failure to make payment within that timeframe shall forfeit the Participant's opportunity to conduct a 2\textsuperscript{nd} sample test, thus automatically re-rating all models within the BMG proportionate to the failed test's results.

☐ Obsolete. Obsolete Models are those that the manufacturer stops producing following an AHRI test failure. If this option is chosen, all models within the BMG must be obsoleted. Obsolete models, with their correct ratings, are shown in the AHRI Directory of Certified Product Performance for six (6) months.

Reasons for Failure

☐ Manufacturing Error. Please list your reasons for failure regarding manufacturing errors:

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☐ Software Error. Please list your reasons for failure regarding software errors:

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☐ Other Error. Please list your reasons for failure regarding other errors:

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Changes to Literature (for Re-Rate and Obsolete):

Within 14 calendar days of this failure notification, the Participant is required to advise AHRI of the steps being taken to correct advertising literature, specifications, software, etc.

Within 60 calendar days of this failure notification, the Participant is required to have withdrawn all known advertising literature, specifications, software, etc. and to have submitted corrected publications/software to AHRI, distributors, dealers, and all other affected parties. The draft public notification of corrections, a copy of the distribution list of those to receive the notification and corrections, as well as a copy of the corrected publication(s)/software, must be reviewed by AHRI prior to dissemination to the public.

Failure to comply with program rules regarding publication/software correction shall result in a program violation.

To ensure the opportunity to preserve this BMG, please return this completed Manufacturer's Decision Form via email or fax within seven (7) calendar days to the certification engineer noted below. More details on the above options can be found in the AHRI General Operations Manual and the ACHC Certification Program Operations Manual. The engineer can address any questions regarding the available options.

Laura Petrillo, Certification Engineer
Phone: (703) 524-8800, x335
Email: lpetrillo@ahrinet.org
Fax: (703) 562-1942

Thank you for your participation in the AHRI Certification Program.
Dear Certification Program Participant:

Please be advised that the following sample, when tested under the AHRI Certification Program for Forced-Circulation Air-Cooling and Air-Heating Coils (ACHC), failed to perform in accordance with the latest edition of AHRI Standard 410, Forced-Circulation Air-Cooling and Air-Heating Coils. Test data is attached to this notification.

Manufacturer: ___________________________  AHRI Test #: ___________________________
Model: ___________________________  Date of Test: ___________________________
AHRI Reference #: ___________________________

Per program rules, following notification of a test failure the Participant has seven (7) calendar days to elect one (1) of the following options. If a completed Manufacturer's Decision Form is not received by AHRI within seven (7) calendar days, the Participant forfeits the opportunity for further testing and all models within the Basic Model Group (BMG) shall be re-rated proportionate to the failed test’s results.

FOLLOWING A FAILURE, PLEASE CHOOSE ONE (1) OF THE FOLLOWING OPTIONS. THE OPTION CHOSEN MUST CORRESPOND TO THE OPTIONS AVAILABLE PER THE AHRI GENERAL OPERATIONS MANUAL AND THE ACHC CERTIFICATION PROGRAM OPERATIONS MANUAL.

☐ Defective Failure. The Participant claims that defective part(s) and/or assemblies caused the test failure. Within 30 calendar days of returning this Manufacturer’s Decision Form to AHRI, the Participant must provide AHRI with a detailed defect report stating the reason for the defective part(s) and/or assemblies. If AHRI agrees that the program’s definition of a defect has been met, AHRI shall notify the Participant to supply new part(s) and/or assemblies, to replace only those that have been deemed defective, to the Independent Third-party Laboratory Contracted by AHRI (Laboratory). These new part(s) and/or assemblies must be supplied to the Laboratory within 14 calendar days of AHRI’s request to the Participant to supply replacement parts. Failure to provide a defect report and/or new part(s) and/or assemblies by their respective deadlines shall forfeit the Participant’s opportunity for a replacement test, thus automatically re-rating all models within the BMG proportionate to the failed test sample’s results.

The Participant may send its own representative to install the replacement part(s) and/or assemblies or may request the Laboratory to perform the replacement. If the Participant chooses to have the Laboratory install the replacements part(s) and/or assemblies, the Participant may not claim improper installation of the part(s) and/or assemblies by the test lab.

Upon receipt of payment for the replacement test, the sample shall be re-tested with the replacement part(s) and/or assemblies installed. If the sample passes, the Participant shall not be issued a second sample test failure. If the sample fails, the Participant shall be issued a second sample failure and shall have the option to re-rate all models within the BMG proportionate to the failed test’s results, or obsolete the model and its corresponding models within the BMG. Laboratory shall directly invoice the Participant for the costs associated with the replacement part installation. Prior to conducting the re-test, AHRI shall invoice the Participant for the cost of the test. Payment must be received within 30 calendar days from date of invoice. Failure to make payment within that timeframe shall forfeit the Participant’s opportunity to claim defective, thus automatically re-rating all models within the BMG proportionate to the failed test’s results.

☐ Re-rate. All models within the BMG shall be re-rated proportionate to the failed test’s results. These re-rates shall be reflected in the AHRI Directory of Certified Product Performance.

☐ Obsolete. Obsolete Models are those that the manufacturer stops producing following an AHRI test failure. If this option is chosen, all models within the BMG must be obsoleted. Obsolete models, with their correct ratings, are shown in the AHRI Directory of Certified Product Performance for six (6) months.
Reasons for Failure

☐ Manufacturing Error. Please list your reasons for failure regarding manufacturing errors:

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☐ Software Error. Please list your reasons for failure regarding software errors:

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☐ Other Error. Please list your reasons for failure regarding other errors:

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Changes to Literature (for Re-Rate and Obsolete):
Within 14 calendar days of this failure notification, the Participant is required to advise AHRI of the steps being taken to correct advertising literature, specifications, software, etc.

Within 60 calendar days of this failure notification, the Participant is required to have withdrawn all known advertising literature, specifications, software, etc. and to have submitted corrected publications/software to AHRI, distributors, dealers, and all other affected parties. The draft public notification of corrections, a copy of the distribution list of those to receive the notification and corrections, as well as a copy of the corrected publication(s)/software, must be reviewed by AHRI prior to dissemination to the public.

Failure to comply with program rules regarding publication/software correction shall result in a program violation.

To ensure the opportunity to preserve this BMG, please return this completed Manufacturer's Decision Form via email or fax within seven (7) calendar days to the certification engineer noted below. More details on the above options can be found in the AHRI General Operations Manual and the ACHC Certification Program Operations Manual. The engineer can address any questions regarding the available options.

Laura Petrillo, Certification Engineer
Phone: (703) 524-8800, x335
Email: lpetrillo@ahrinet.org
Fax: (703) 562-1942

Thank you for your participation in the AHRI Certification Program.

(Please complete all fields)
Company: ___________________________ Date: ___________________________
Submitted by: ________________________ Email: ___________________________
__________________________________________________________________________
Print Fax: ___________________________
Signature: ___________________________ Phone: ___________________________
Title: _____________________________
Dear Certification Program Participant:

We require the following information to be supplied with the FORCED-CIRCULATION AIR-COOLING AND AIR-HEATING COILS unit test selections or the unit shall not be tested.

**Unit Information**

*Please supply the following information with/on your units:*

1. Unit shall be permanently affixed with the AHRI test number (permanent marker or label shall suffice)
2. Unit shall be labeled with arrows indicating the following:
   a. Direction of airflow
   b. Fluid Inlet
   c. Fluid Outlet
   d. Which side is “Up”
3. Diagram of unit with dimensions, if not on the cut sheet, generated by your software, attached to the selection letter
4. For DX coils, the following information shall be supplied immediately if not on the cut sheet, generated by your software, attached to the selection letter
   a. Saturated suction refrigerant temperature at coil outlet, deg F [ deg C ]
   b. Suction vapor superheat at coil outlet (as rated), deg F [ deg C ]
   c. Subcooled refrigerant liquid temperature, deg F [ deg C ]
   d. Design saturated condensing temperature, deg F [ deg C ]

**Coil Connections**

*Please supply the units for testing with one of the following connection fittings:*

1. Water/brine coils:
   a. Standard NPT right-handed threaded connection, or if this is not possible,
   b. Six (6) inch [ 150 mm ] copper pipe stub-out in the same size as the connection (diameter and thickness) welded to the header inlet and outlet
2. DX coils:
   a. Six (6) inch [ 150 mm ] copper pipe stub-out in the same size as the connection (diameter and thickness) welded to the suction header

**Test Reports**

*Only test reports for failed units shall be sent directly to Participants. Laboratory shall provide secure, online access all reports.*

*Please note:*
Units that fail testing shall not be returned immediately, the manufacturer shall be given a chance to evaluate the unit failure before it is returned.

Please contact AHRI if you have any questions regarding this information. Thank you for your participation in the AHRI Certification Program.
APPENDIX D
410 Forms

D.1  **410-1, Calculation Procedure To Determine Fin Efficiencies and Metal Thermal Resistances.**
Electronic form available for download from AHRI’s website.

D.2  **410-2, Calculation of Air-Side Resistances from Steam and Water Coil Tests.**
Electronic form available for download from AHRI’s website.

D.3  **410-3, Calculation of Tube-Side Pressure Drops from Steam and Water Coil Tests.**
Electronic form available for download from AHRI’s website.

D.4  **410-4, Calculation of Refrigerant-Side Thermal Resistances from Volatile Refrigerant Coils Tests.**
Electronic form available for download from AHRI’s website.

D.5  **410-5, Suggested Form for Rating Calculation Procedure for Sensible Heat Air Coils.**
Electronic form available for download from AHRI’s website.

D.6  **410-6, Suggested Form for Rating Calculation Procedure for Cooling and Dehumidifying Coils.**
Electronic form available for download from AHRI’s website.

D.7  **410-7, Calculation of Heat Transfer Coefficient and Friction Factor for Ethylene Glycol Coils.**
Electronic form available for download from AHRI’s website.

D.8  **410-8, Suggested Form for Rating Calculation Procedure for Sensible Heat Air Coils with Ethylene Glycol Solutions.**
Electronic form available for download from AHRI’s website.

D.9  **410-9, Suggested Form for Rating Calculation Procedure for Cooling and Dehumidifying Coils with Ethylene Glycol Solutions.**
Electronic form available for download from AHRI’s website.