

## LLHE Certification Checklist

In efforts to inform the customers and end-users of AHRI Certified products, the following information serves as a quick-reference guide and checklist for the AHRI LLHE Certification Program. The facts presented are extracted from this Operations Manual and the Standard.

- |   |            |           |
|---|------------|-----------|
| <b>A.</b> Is the equipment within the scope of AHRI Certification Program?          | <b>Yes</b> | <b>No</b> |
| 1 Gasketed Plate-Type Heat Exchanger  |            |           |
| 2 Utilizing water, sea water, ethylene or propylene glycol on one or both circuits? |            |           |
| 3 If utilizing glycols, is the concentration between 10% and 50%?                   |            |           |
| 4 Is the Capacity less than or equal to 240,000,000 Btu/hr?                         |            |           |
| 5 Is the flow rate less than or equal to 20,000 gpm?                                |            |           |

**If 'No' was answered for any of the above questions, then the Heat Exchanger does not fall within the scope of the AHRI Liquid to Liquid heat Exchanger Certification Program.**

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| <b>B.</b> Is (Are) the model(s) published in the AHRI Certified Directory? |  |  |
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If Yes, and all the answers to A are Yes, the Heat Exchanger specification sheet shall be represented by the following statement:

“This Heat Exchanger is certified by the AHRI Liquid to Liquid Heat Exchangers Certification Program based on AHRI Standard 400. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at [www.ahridirectory.org](http://www.ahridirectory.org).”

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|--|------------|-----------|
| <b>C.</b> Is all the information provided in the published rating, as required per the Standard? | <b>Yes</b> | <b>No</b> |
| 1 Hot stream inlet and outlet temperatures, °F [°C]  |            |           |
| 2 Cold stream inlet and outlet temperatures, °F [°C]   |            |           |
| 3 Total heat transfer rate, Btu/h [W]  |            |           |
| 4 Identification of hot stream and cold stream liquids   |            |           |
| 5 Concentration of Glycol (if the fluid type is glycol), %                                       |            |           |
| 6 Hot stream flow rate, gpm [L/s]  |            |           |
| 7 Cold stream flow rate, gpm [L/s]   |            |           |
| 8 Hot stream pressure drop, psig [kPa]   |            |           |
| 9 Cold stream pressure drop, psig [kPa]  |            |           |
| 10 Fouling Factor, hft <sup>2</sup> °F/Btu [m <sup>2</sup> °C/W]                                 |            |           |
| 11 Hot stream NTU  |            |           |
| 12 Cold stream NTU   |            |           |
| 13 Hot stream and cold stream design pressures, psig [kPa]                                       |            |           |
| 14 Overall dimensions, in [mm]   |            |           |
| 15 All standard connection types and sizes, in [mm]  |            |           |
| 16 Shipping weight, lb [kg]  |            |           |
| 17 Operating weight, lb [kg]   |            |           |

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**If 'No' was answered for any of the above questions, then the published ratings do not comply with the requirements of the Standard.**

If only clean heat transfer surface ratings are published, a statement shall be included to contact the manufacturer if fouled heat transfer surface ratings are required.

### Notes:

1. A Certification Participant does not have to be an AHRI member, and AHRI members do not have to be LLHE Certification Participants.
2. Participants are not considered "AHRI Certified". Only the products which they have submitted as part of their respective certification allocation can claim AHRI Certification. Certified LLHE products can be found in the AHRI Directory at <http://www.ahridirectory.org/ahridirectory/pages/llhe/defaultSearch.aspx>
3. All documents presented at the time of the bid and/or sales shall be in accordance with the latest edition of AHRI Standard 400, including the Published Rating, which should include the "AHRI Certified" Mark and the Selection Rating Software version.
4. Performance data supplied by the Participants (Published Ratings) can be sent to AHRI for quality verification.
5. If AHRI Certification is requested at the time of bid, and the application is outside the scope of the program, a clear statement shall be made in order to properly represent the LLHE Certification program scope, and not misinform the customer or end-user of any intended performance certification.