BSR/ASHRAE/IES Addendum cu
to ANSI/ASHRAE/IES Standard 90.1-2016

Public Review Draft

Proposed Addendum cu to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

First Public Review (May 2019)
(Draft Shows Proposed Changes to Current Standard)

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at www.ashrae.org/standards-research--technology/public-review-drafts and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at www.ashrae.org/bookstore or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

This standard is under continuous maintenance. To propose a change to the current standard, use the change submittal form available on the ASHRAE website, www.ashrae.org.

ASHRAE, 1791 Tullie Circle, NE, Atlanta GA 30329-2305

(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

FOREWORD

In 2010, Table 6.8.1-8 was added to ASHRAE Standard 90.1 defining requirements for plate type liquid to liquid heat exchangers, including rating units per AHRI Standard 400. When first included, Table 6.8.1-8 did not list a minimum efficiency requirement. It was thought that once the AHRI certification program became widely adopted by Industry, a minimum efficiency requirement could be defined. After further review and discussion, and considering the wide range of applications covered, it was found to not be practical to add a minimum efficiency requirement to the Table (essentially heat lost by one fluid is gained by the other fluid). The lack of a minimum efficiency in the Table also led to some confusion in the Industry regarding requirements for plate type liquid to liquid heat exchangers.

For the above reasons, this addendum will delete Table 6.8.1-8 as well as the reference to the Table in Section 6.4.1.1h, while renumbering these sections appropriately. However, the test procedure requirement for heat exchanger rating will be retained as there continues to be significant benefit to the Industry from ratings that are in compliance with AHRI 400. Therefore, this addendum will add 6.4.7 to require that liquid to liquid heat exchangers that fall under the scope of AHRI 400 be rated in accordance with AHRI 400.

Because efficiency requirements have not been modified, the only change is where the rating requirement per AHRI 400 is defined. Therefore, there is no impact on energy or cost so an economic justification for this change is not required.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum cu to 90.1-2016

Modify the standard as follows (IP and SI Units)

Revise section 6.4.1.1 as follows:

6.4.1.1 Minimum Equipment Efficiencies—Listed Equipment—Standard Rating and Operating Conditions.

…

Tables are as follows:

…

~~h. Table 6.8.1-8, "Heat Transfer *Equipment*"~~

…

Revise section 6.4.1.4 as follows:

6.4.1.4 Verification of Equipment Efficiencies

Equipment efficiency information supplied by *manufacturers* shall be verified by one of the following:

a. *Equipment* covered under EPACT shall comply with U.S. Department of Energy certification requirements.

b. If a certification program exists for a covered product, and it includes provisions for verification and challenge of *equipment efficiency* ratings then the product shall be listed in the certification program.

c. If a certification program exists for a covered product, and it includes provisions for verification and challenge of *equipment efficiency* ratings, but the product is not listed in the existing certification program, the ratings shall be verified by an independent laboratory test report.

d. If no certification program exists for a covered product, the *equipment efficiency* ratings shall be supported by data furnished by the *manufacturer*.

e. Where components such as indoor or outdoor coils from different *manufacturers* are used, the *system* designer shall specify component efficiencies whose combined *efficiency* meets the minimum *equipment efficiency* requirements in Section 6.4.1.

~~f. Requirements for plate-type liquid-to-liquid heat exchangers are listed in Table 6.8.1-8.~~

Add Section 6.4.7:

6.4.7 Liquid-to-liquid heat exchangers

Plate type liquid to liquid heat exchangers shall be rated in accordance with AHRI 400. Section 12 contains a complete specification of the referenced test procedure.

Delete table 6.8.1-8:

~~**Table 6.8.1-8 Heat Transfer *Equipment* – Minimum *Efficiency* Requirements**~~

~~***Equipment* Type~~	~~Subcategory~~	~~Minimum Efficiency[a]~~	~~Test Procedure[b]~~
~~Liquid-to-liquid heat exchangers~~	~~Plate type~~	~~NR~~	~~AHRI 400~~

~~a. NR = no requirement~~
~~b. Section 12 contains a complete specification of the referenced test procedure, including the referenced year version of the test procedure.~~