Interpretation IC 170-2021-5 of
ANSI/ASHRAE/ASHE Standard 170-2021
Ventilation of Health Care Facilities

Date Approved: January 23, 2024

Request from: David H. Leo, Cosentini Associates, 498 7th Ave, 15th floor, New York, NY 10018.

Reference: This request for interpretation refers to the requirements in ANSI/ASHRAE/ASHE Standard 170-2021, Sections 6.7.2.a and 7.1.a.5, Tables 6-2 and 7-1, regarding supply air outlet requirement on recirculating room HVAC units.

Background: ASHRAE/ASHE Standards 170, Table 6-2 Supply Air Outlets, states Single-Bed patient or resident rooms [c] shall be equipped with Group A, Group D, or Group E supply air outlet.
[c] Air distribution systems using Group D diffusers shall meet the following requirements:
1. The system shall be designed according to "Design Guidelines" in System Performance Evaluation and Design Guidelines for Displacement Ventilation, Chapter 7.
2. The supply diffuser shall be located where it cannot be permanently blocked.
3. The room return / exhaust grille shall be located in the ceiling, approximately above the head of the patient or resident bed.
4. The transfer grille to the toilet room shall be located above the occupied zone.

ASHRAE Fundamentals 2017, Chapter 20 defines supply air outlet types and characteristics as below:
Group A1: Outlets mounted in or near the ceiling that discharge air horizontally.
Group A2: Outlets discharging horizontally that are not influenced by an adjacent surface.
Group B: Outlets mounted in or near the floor that discharge air vertically in a linear jet.
Group C: Outlets mounted in or near the floor that discharge air vertically in a spreading jet.
Group D: Outlets mounted in or near the floor that discharge air horizontally.
When used in fully stratified systems, these outlets use low discharge velocity; in mixed systems, they use higher discharge velocity.
Group E: Outlets that project supply air vertically downward.

ASHRAE/ASHE Standards 170, Note [a] for Table 7-1 states "Except where indicated by "NO" in this column, recirculating room HVAC units (with heating or cooling coils) are acceptable for providing that portion of the minimum total air changes per hour that is permitted by Section 7.1 (subparagraph [a][5]).

ASHRAE/ASHE Standards 170, Section 7.1 subparagraph [a][5] states, for spaces where Table 7-1 permits air to be recirculated by room units, the portion of minimum total air changes per hour required for a space that is greater than the minimum outdoor air change per hour required component may be provided by recirculating room HVAC units. Such recirculating HVAC unit shall
i. Not receive nonfiltered, nonconditioned outdoor air;
ii. Serve only a single space; and

iii. Provide a minimum MERV 8 filter for airflow passing over any surface that is designed to condense water. This filter shall be located upstream of any such cold surface so that all of the air passing over the cold surface is filtered.

We have an existing healthcare facility (I-2 Occupancy), equipped with PTAC units (thru the wall packaged terminal units) with hydronic heating coil and supply air outlet type C in conjunction with central air handling unit system provides filtered / treated outside air.

Interpretation No.1: It is our interpretation of above requirements that when recirculating room HVAC units are allowed per Table 7-1, floor mounted, console type, recirculating unit such as, PTAC units (thru the wall packaged terminal units), that is equipped with supply diffuser Type B or Type C shall not be utilized as it does not meet supply air outlet requirement as set forth in Table 6-2.

Question No.1: Is this interpretation correct?

Answer No.1: Yes

Interpretation No.2: It is our interpretation of above requirements that when recirculating room HVAC units are allowed per Table 7-1, floor mounted, console type, recirculating unit such as, PTAC units (thru the wall packaged terminal units) with supply air outlet Type D are not permissible to be installed, where units cannot meet the design criteria as set force in "Design Guidelines" in System Performance evaluation and Design Guidelines for Displacement Ventilation, Chapter 7.

Question No.2: Is this interpretation correct?

Answer No.2: Yes

Interpretation No.3: It is our interpretation of above requirements that Existing PTAC units cannot be utilized when area gets renovated, as existing PTAC units do not meet supply air outlet requirement as set forth in Table 6-2 while, renovated configuration is meeting all requirement as set force in Section 7.1 paragraph [a] [5].

Question No.3: Is this interpretation correct?

Answer No.3: No, PTAC units that meet the requirements in ASHRAE/ASHE 170 are acceptable.

Comments No.3: As for the existing PTAC units being utilized for a renovated space, it is up to the local AHJ and designer to determine if the PTAC meets all the requirement of ASHRAE/ASHE Standard 170.