

2022 California Mechanical Code Part 4

Definition for Zone

Section: Section 228.0 -Z-

228.0

...

[ASHRAE 34:3]

Zone. [For OSHPD 1, 2, 3, 4 & 5] A space or group of spaces within a building for which the heating, or cooling requirements are sufficiently similar that desired conditions can be maintained throughout by a single controlling device.

OSHPD proposes to add the definition of Zone to [OSHPD 1, 2, 3, 4 & 5] to specify the meaning of this term within Part 4 and reduce confusion.

Variable Air Volume

407.5.1.3 Spaces with pressure requirements per Table 4-A shall utilize Variable air volume for return or exhaust air shall be accomplished by utilizing an automatic modulating damper in the return or exhaust air for each ~~zone~~space. The damper will modulate from full open to minimum position in conjunction with the supply air VAV terminal ~~boxes~~equipment.

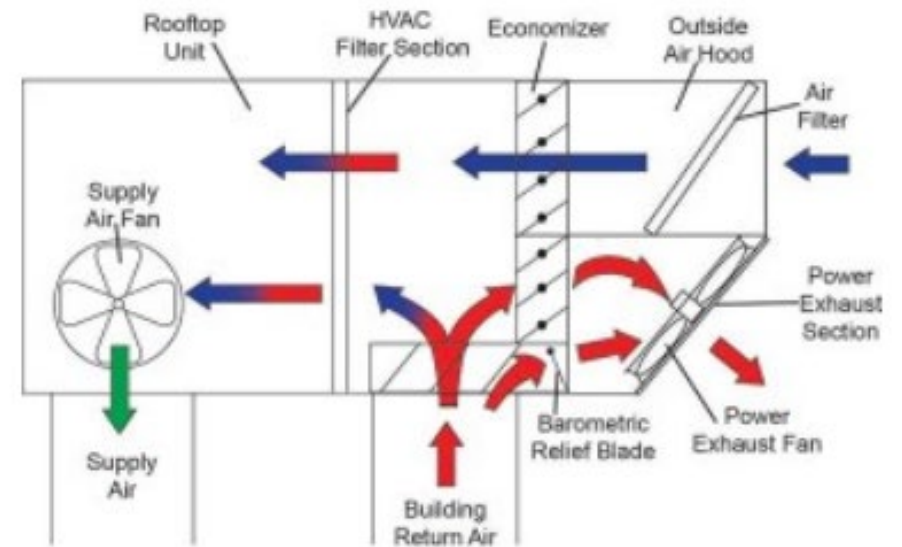
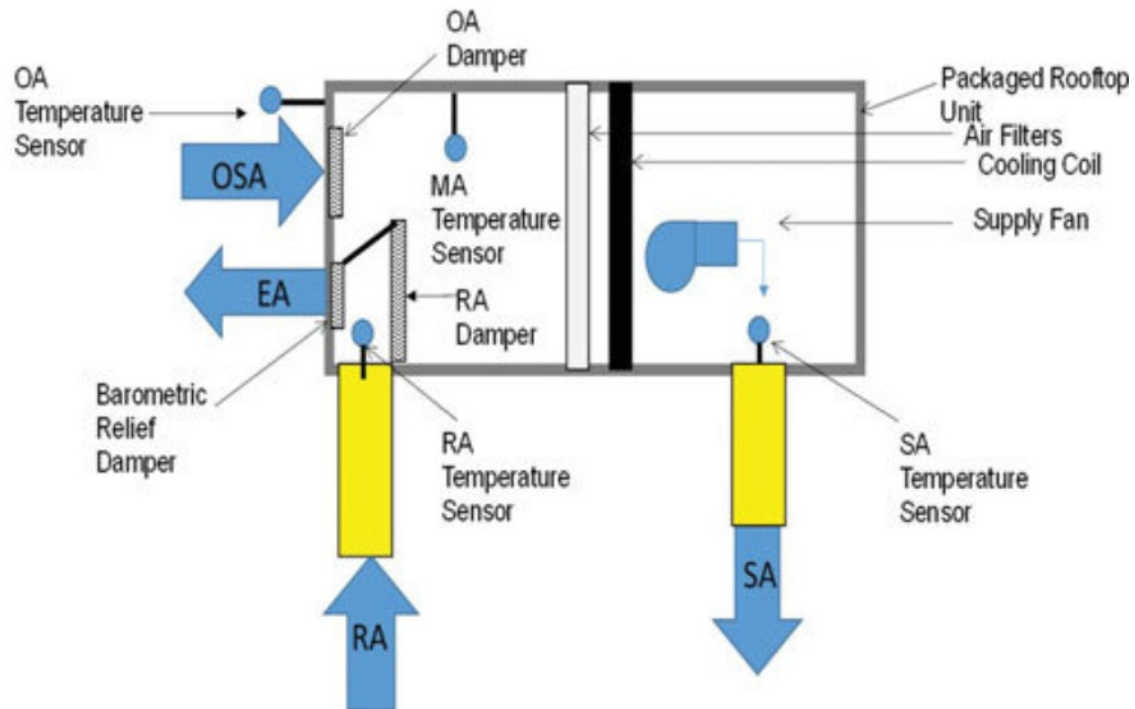
OSHPD proposes to amend the Variable Air Volume (VAV) to specify that a VAV device is required in spaces with pressure requirements so that a system can control the pressure in spaces with pressure requirements in conjunction with controlling the air flow

Economizers

407.6 Economizers. Systems with economizers shall include modulating relief and/or return fans to ensure compliance with the pressure requirements of spaces listed in Table 4-A.

OSHPD proposes to add a section for Economizers. Designers often fail to specify powered exhaust for systems that utilize economizers. Such an omission creates non-compliant conditions in healthcare spaces that have specific pressure requirements. This edit is to reduce the occurrence of this error and simplify the design and review process

407.6 Economizers



Diffusers

420.0 Air Distribution Devices. [For OSHPD 1, 2, 3, 4 & 5] All air distribution devices and supply air outlets shall meet the requirements of ASHRAE 170-2013, Section 6.7.2 and Table 6.7.2.



OSHPD proposes to add a pointer to the portions of ASHRAE 170 where the requirements for air distribution devices are specified. This is to reduce the occurrence of a very common, costly design error and ensure asepsis.

Remove a Redundancy on Gamma Camera

TABLE 4-A (continued)

PRESSURE RELATIONSHIP AND VENTILATION REQUIREMENTS FOR GENERAL ACUTE CARE HOSPITALS, SKILLED NURSING FACILITIES, INTERMEDIATE CARE FACILITIES, CORRECTIONAL TREATMENT CENTERS, OUTPATIENT FACILITIES, AND LICENSED CLINICS

Function or Space	Pressure Relationship to Adjacent Areas (f) (n)	Minimum Outdoor ach	Minimum Total ach	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	Design Relative Humidity (k), %	Design Temperature (l), oF/oC
...
Gamma Camera	NR	2	6	NR	No	NR	NR
<i>Nuclear medicine (Gamma, PET, SPECT)</i>	<i>Negative</i>	<i>2</i>	<i>6</i>	<i>Yes</i>	<i>No</i>	<i>NR</i>	<i>NR</i>

OSHPD proposes an editorial change to remove redundant information in Table 4-A.

Air Balance

407.3 Air Balance.

407.3.1 *The ventilation systems shall be designed and balanced to provide the general air balance relationship to adjacent areas, shown in Table 4-A. The ventilation systems shall be balanced in accordance with the latest edition of standards published by the Associated Air Balance Council (AABC), the National Environmental Balancing Bureau (NEBB), or the Testing, Adjusting and Balancing Bureau (TABB).*

Air Balance standards allow for a 10% deviation

Air Balance

TABLE 4-A (continued)
PRESSURE RELATIONSHIP AND VENTILATION REQUIREMENTS FOR GENERAL ACUTE CARE HOSPITALS, SKILLED NURSING FACILITIES, INTERMEDIATE CARE FACILITIES, CORRECTIONAL TREATMENT CENTERS, OUTPATIENT FACILITIES, AND LICENSED CLINICS

f. For operating rooms, cardiac catheterization labs, angiography rooms, cystoscopy rooms, delivery rooms, cesarean operating rooms, newborn intensive care, and nurseries provide approximately 15% excess supply air to the room or a sufficient quantity of excess supply air to maintain an appropriate positive air balance based on the room tightness and number of doors. For all rooms not listed in this footnote or not listed in Section 322.0 requiring either a positive or negative air balance, provide approximately 10% differential cfm between supply and return/exhaust airflow but not less than 25 cfm differential shall be provided regardless of room size. Room function, size, and tightness may be considered when determining the differential airflow required. Where continuous directional control is not required, variations between supply cfm and return or exhaust cfm shall be minimized in accordance with Section 407.4.1.3.

Air balance will need to evaluate minimum airflow differentials maintained per CMC Table 4A. 10% Differential may create noncompliant pressure relationship. Design professional will need to have process to confirm.

AIRR (Airborne Infection Isolation Room)

416.0 Alarms – Airborne Infection Isolation Rooms and Protective Environment Rooms. [OSHPD 1, 2, 3, 4& 5]

416.1 *An alarm system which is based on static pressure control, volumetric control, or directional flow measurement shall be provided for each isolation room. The alarm system shall consist of a display monitor located on the corridor wall near the door to the room and a visual and audible alarm which annunciates at the room and at a nurses' station or other suitable location that will provide responsible surveillance. A time delay shall be provided to allow for routine openings of doors. The alarm shall annunciate when the supply, return, or exhaust fans are interrupted or when the minimum required pressure differential per ASHRAE 170 between the airborne infection isolation room and corridor or between the protective environment room and corridor is not being met during closed door conditions.*

416.4 *Prior to acceptance of the rooms, the alarm system shall be tested and operated to demonstrate to the owner or designated representative that the installation and performance of the system conforms to design intent.*

ASHRAE 170 -2013

7.2.1 Airborne Infection Isolation (All) Rooms.

TAB report will need to provide a pressure differential test to show required pressurization is met.

AIIR – ASHRAE 170 7.2.1

ASHRAE 170 -2013

7.2.1 Airborne Infection Isolation (All) Rooms.

f. Differential pressure between All rooms and adjacent spaces that are not All rooms shall be a minimum of (neg) -0.01 in. wc (-2.5 Pa). Spaces such as the toilet room and the anteroom (if present) that are directly associated with the All room and open directly into the All room are not required to be designed with a minimum pressure difference from the All room but are still required to maintain the pressure relationships to adjacent areas...

g. When an anteroom is provided, the pressure relationships shall be as follows: (1) the All room shall be at a negative pressure with respect to the anteroom, and (2) the anteroom shall be at a negative pressure with respect to the corridor.

2022 California Plumbing Code Part 5

Identify Applicable Standard

- **1304.1.1 [OSHPD 1, 1R, 2, 3, 4 & 5]** *Medical gas systems for health care facilities that are regulated by OSHPD (hospitals, skilled nursing facilities, and intermediate care facilities, licensed clinics, and correctional treatment centers) shall be in accordance with NFPA 99, Standard for Health Care Facilities. See California Fire Code Referenced Standards (Chapter 80) for applicable version of the Standard. See California Building Code Table 1224.4.6.1 for location and number of station outlets for oxygen, vacuum, and medical air.*

There is confusion in the industry about which version of NFPA 99 is adopted by OSHPD and other agencies due to publishing of IAPMO model code lagging behind the California Fire Code. This edit adds a clear pointer to where the appropriate version of this document is adopted by the California State Fire Marshal, in the California Fire Code chapter on referenced standards

Replace Missing Exception

1304.1.2 [OSHPD 1, 1R, 2, 3, 4 & 5] *A medical gas source system shall not be located in an OSHPD 1R or OSHPD 3 building. OSHPD 1R buildings shall be served by an individual main supply line separate from other OSHPD buildings, with a main line valve as per NFPA 99. [NFPA 99:5.1.4.2.1, 5.1.4.2.2, 5.1.4.3.1, 5.1.4.3.2] Valves shall be readily accessible and clearly labeled.*

Exception: A medical gas source system serving only an OSHPD 1R or 3 building may be located within it.

The exception for 1304.1.3 was mistakenly removed from the 2019 Intervening submittal. It is being added to remove confusion about medical gas sources serving only OSHPD 1R or OSHPD 3 buildings

Added Reference Standard for Dialysis

TABLE 1701.1
REFERENCED STANDARDS

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<u>ANSI/AAMI RD62</u>	<u>Water Treatment Equipment for Hemodialysis Applications</u>	<u>Miscellaneous</u>	<u>Section 614.7</u>
ASME A112.1.2-2012	Air Gaps in Plumbing Systems (For Plumbing Fixtures and Water-Connected Receptors)	Fittings	Table 603.2...

Water treatment equipment for hemodialysis applications added to referenced standards in Table 1701.1.

Domestic Hot Water Piping - Legionella

613.0 [OSHPD 1, 1R, 2, 3, 4 & 5] Domestic Hot-Water Distribution Systems for Health Facilities and Clinics.

613.2 *At least two pieces of hot-water-heating equipment shall be provided to supply hot water for dishwashing and minimum patient services such as handwashing and bathing. The arrangement of water-heating equipment shall be based on the capacity and capability of the equipment to provide the required hot water during periods of breakdown or maintenance of any one water heater. Booster heaters for 125°F to 180°F (52°C to 82°C) water are acceptable as a second piece of equipment for dishwashing. Where storage tanks are separate from the water heater, at least two independent storage tanks shall be provided.*

613.6 *Hot-water distribution system serving patient care areas shall be under constant mechanical recirculation to provide continuous hot water at each hot water outlet. Non-recirculated fixture branch piping shall not exceed 25 feet (7.62 meters) in length. Dead-end piping (risers with no flow, branches with no fixture) shall not be installed. In renovation projects, dead-end piping shall be removed in the area of renovation. Empty risers, mains, and branches installed for future use shall be permitted.*