

(Effective until July 1, 2023)

WAC 51-11C-40371 Section C403.7.1—Demand control ventilation.

C403.7.1 Demand control ventilation. Demand control ventilation (DCV) shall be provided for spaces larger than 500 square feet (50 m²) and with an occupant load greater than or equal to 25 people per 1000 square feet (93 m²) of floor area (as established in Table 403.3.1.1 of the *International Mechanical Code*) and served by systems with one or more of the following:

1. An air-side economizer;
2. Automatic modulating control of the outdoor air damper; or
3. A design outdoor airflow greater than 3,000 cfm (1416 L/s).

EXCEPTION:

Demand control ventilation is not required for systems and spaces as follows:

1. Systems with energy recovery complying with Section C403.7.6.1 or C403.3.5.1. This exception is not available for space types located within the "inclusions" column of Groups A-1 and A-3 occupancy classifications of Table C403.3.5.
2. Multiple-zone systems without direct digital control of individual zones communicating with a central control panel.
3. System with a design outdoor airflow less than 750 cfm (354 L/s).
4. Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1,200 cfm (566 L/s).
5. Ventilation provided for process loads only.
6. Spaces with one of the following occupancy categories (as defined by the *International Mechanical Code*): Correctional cells, daycare sickrooms, science labs, barbers, beauty and nail salons, and bowling alley seating.

[Statutory Authority: RCW 19.27A.020, 19.27A.025, 19.27A.160 and chapter 19.27 RCW. WSR 19-24-040, § 51-11C-40371, filed 11/26/19, effective 7/1/20.]

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WAC 51-11C-40371 Section C403.7.1—Demand control ventilation.

C403.7.1 Demand control ventilation.

C403.7.1.1 Spaces requiring demand control ventilation. Demand control ventilation (DCV) shall be provided for the following:

1. Spaces with ventilation provided by single-zone systems where an air economizer is provided to comply with Section C403.5.
2. Spaces with an occupant load greater than or equal to 15 people per 1000 square feet (93 m²) of floor area (as established in Table 403.3.1.1 of the *International Mechanical Code*) or with an occupant outdoor airflow rate greater than or equal to 15 cfm/person, as established in Table 403.3.1.1 of the *International Mechanical Code*.

EXCEPTIONS:

1. Spaces including, but not limited to, dining areas, where more than 75 percent of the space design outdoor airflow is transfer air required for makeup air supplying an adjacent commercial kitchen.
2. Spaces with one of the following occupancy classifications as defined in Table 403.3.1.1 of the *International Mechanical Code*: Correctional cells, educational laboratories, barbers, beauty and nail salons, and bowling alley seating.
3. Dormitory sleeping areas with fewer than five occupants per space.
4. Spaces with ventilation not provided by a single-zone system where the design occupant component outdoor airflow is less than 100 cfm (23.6 L/s), or 200 cfm (47.2 L/s) with system having energy recovery with minimum 60 percent sensible effectiveness. Design occupant component outdoor airflow shall be calculated as the product of the design number of occupants in the space and the people outdoor airflow rate per occupant (R_p) as established in Table 403.3.1.1 of the *International Mechanical Code*.
5. Spaces with ventilation not provided by a single-zone system where the total system design outdoor airflow is less than 750 cfm (354 L/s), or 1500 cfm (708 L/s) with system having energy recovery with minimum 60 percent sensible effectiveness.

C403.7.1.2 Demand control ventilation design. Each space required to have demand control ventilation shall have equipment and controls capable of and configured to automatically change the quantity of outdoor air supplied to the space based upon the output of a CO₂ sensor. System outdoor air intake shall be adjusted from peak design levels in response to changes in outdoor air required in the spaces served by

the system. This adjustment shall be accomplished by variable speed fan control.

EXCEPTION: These system types may use other means of adjusting outdoor air:
1. Single zone systems designed to recirculate return air.
2. Systems with total supply air less than 1500 cfm (708 L/s).

[Statutory Authority: RCW 19.27A.020, 19.27A.025, 19.27A.160 and chapters 19.27A and 19.27 RCW. WSR 22-14-091, § 51-11C-40371, filed 7/1/22, effective 7/1/23. Statutory Authority: RCW 19.27A.020, 19.27A.025, 19.27A.160 and chapter 19.27 RCW. WSR 19-24-040, § 51-11C-40371, filed 11/26/19, effective 7/1/20.]