

**INTERPRETATION IC 62.1-2016-3 OF
ANSI/ASHRAE STANDARD 62.1-2016
VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY**

Approved: January 21, 2018

Request from: Hoy Bohanon, Hoy Bohanon Engineering, PLLC, Clemmons, NC 27012.

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 62.1-2016, Section 5.16.3.2.5, regarding energy recovery ventilation systems.

Background: 62.1-2016 defines

energy recovery ventilation system: a device or combination of devices applied to provide the outdoor air for ventilation in which energy is transferred between the intake and exhaust airstreams.

Section 5.16.3.2.5 Class 2 air shall not be recirculated or transferred to Class 1 spaces.

Exception: When using any energy recovery device, recirculation from leakage, carryover, or transfer from the exhaust side of the energy recovery device is permitted. Recirculated Class 2 air shall not exceed 10% of the outdoor air intake flow.

Interpretation No.1: A designer determines that an HVAC system requires V_{ot} of 1000 cfm. The designer also notices that there is a 100 cfm toilet exhaust nearby and chooses to duct the toilet exhaust to the outdoor air intake in order to save energy. This recirculated exhaust air is permitted under the exception in 5.16.3.2.5 because the toilet fan and ductwork constitute an energy recovery device that transfers energy between the intake and exhaust airstreams.

Question No.1: Is this interpretation correct?

Answer No.1: No.

Interpretation No.2: The designer then determines that there is only 900 cfm of outdoor air required because the 100 cfm leakage is allowed under the exception in 5.16.3.2.5. This combined flow from the outdoor air and the leaked exhaust air satisfy the minimum requirement for $V_{ot} = 1000$ cfm.

Question No.2: Is this interpretation correct?

Answer No.2: No.

Interpretation No.3: A building that was designed using the VRP has an energy recovery wheel. There were some IAQ complaints. The building contains some volatile sources and acetaldehyde was used as a marker during a test. The outdoor ambient concentration was 3 ug/m³. The exhaust air contained 50 ug/m³ and the outdoor air intake downstream of the wheel contained 25 ug/m³. The design engineer maintains that the system complies with 62.1-2016 because the air transfer from exhaust to outdoor air through the energy recovery device is less than 10%. The standard is silent on transfer of contaminants from exhaust to supply it only specifies airflow unless the IAQP is used.

Question No.3: Is this interpretation correct?

Answer No.3: Yes. Only the IAQP portion of the standard allows the design to consider contaminant transfer. There is not sufficient evidence that the system in question is or is not compliant with the standard.