Ventilation Checklist & Log

This checklist discusses eight major topic areas:

Outdoor Air Intakes

System Cleanliness

System Controls

Air Distribution

Exhaust Systems

Quantity of Outdoor Air

Adequacy of Outdoor Air Supply

How to Measure Air Flow

Instructions:

1. Read the *IAQ Backgrounder*.
2. **Important**! Read the Ventilation Activity explanations accompanying this checklist (pages 5-13).
3. Make one copy of the Ventilation Log (pages 3-4) for **each** ventilation unit in your school.
4. Complete each activity for **each** ventilation unit and note the status of each activity on the Ventilation Log.
5. Return the Ventilation Logs to the IAQ Coordinator and keep copies for future reference.

Schools use a variety of methods for ventilating the building with outdoor air: 1) mechanically-based systems such as unit ventilators, central HVAC systems, and central exhaust systems, and; 2) passive systems that rely on operable windows, air leaks, wind, and the stack effect (the tendency of warm air to rise).

The majority of the Ventilation Checklist/Log activities apply mainly to mechanical ventilation systems, and are designed to accomplish two functions:

- Ensure that the ventilation system is clean, and
- Ensure that an adequate amount of outdoor air is supplied to occupied areas

Many of these activities should be performed by individuals with appropriate training in mechanical systems and safety procedures. Most activities can be performed with basic maintenance tools, but Activity 22 will require airflow measurement equipment that you may not have. The section *How to Measure Airflow*, at the back of this Checklist, describes the type of equipment used to measure airflow. The IAQ Coordinator has information on how this equipment can be obtained (**Appendix C** of the Coordinator's Guide). Make an effort to obtain this equipment before conducting Activity 17. Supplying an adequate amount of outdoor air to an occupied area is necessary for good indoor air quality, and measuring airflow can only be done correctly with equipment that can reliably tell you if you're getting the proper amount of outdoor air (visual inspection or feeling for air movement is not sufficient).

Activities 17-21 can be applied to passive ventilation systems. For activities that do not apply, place a "NA" in the date column of the Ventilation Log.

Your school most likely has multiple units and systems, so be sure to perform the activities and complete the Ventilation Log for each unit. The activities are listed in a purposeful order to prevent having to repeat activities for a given unit as the inspection progresses. The following is a recommended process for saving time in performing the activities:

Activities 1-3

Perform these activities for all outdoor air intakes while outside the building, and mark the results on the Ventilation Log for each unit.

Activities 4-12

Perform these activities as a set on each ventilation unit while you're in the room and the unit is open.

Activities 13-16

Perform these ventilation control system activities as required by your situation.

Activities 17-21

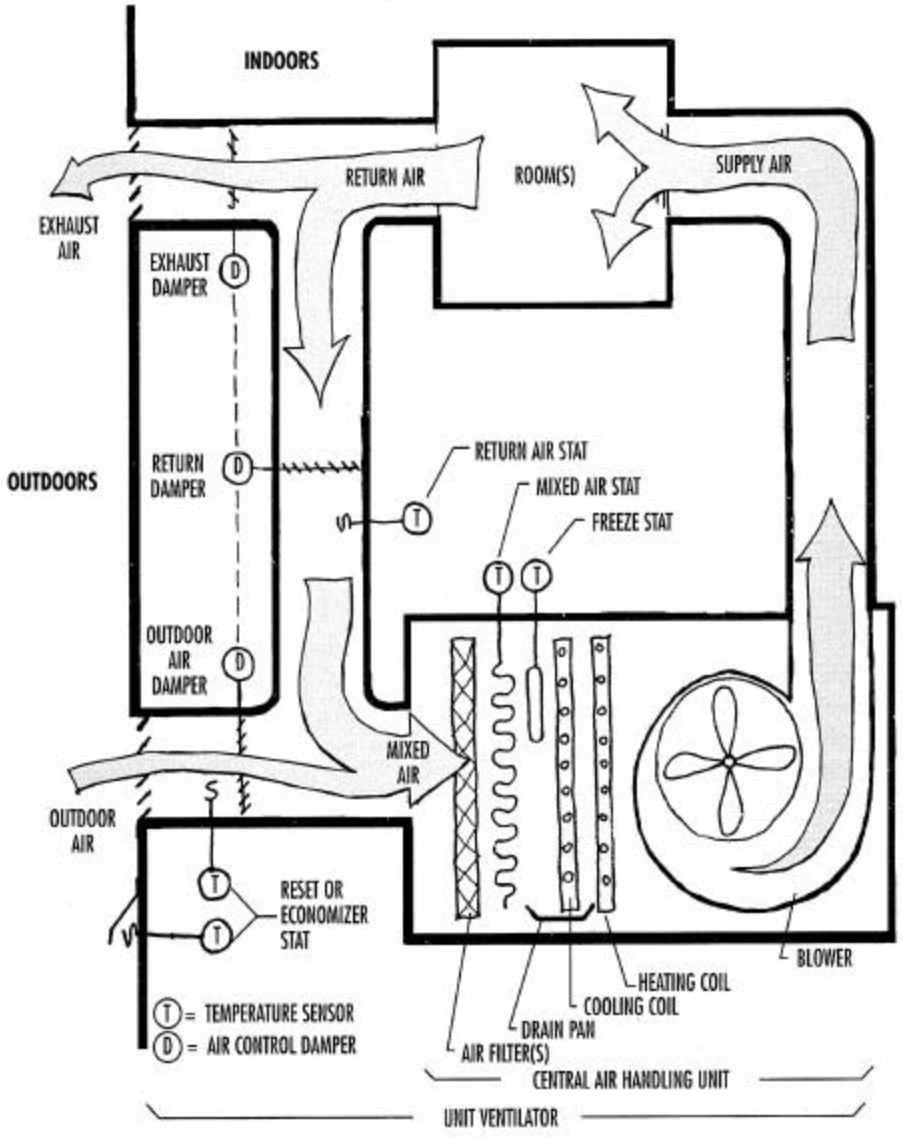
Perform these air distribution and exhaust system activities as required by your situation.

Activities 22-23

Perform these activities regarding the quantity of outdoor air on all units while you have the airflow measurement equipment available.

All of these activities are described in the information following the Log. For more detailed information see *Building Air Quality: A Guide for Building Owners and Facility Managers* (EPA-400-1-91-033) listed in Appendix I of the *IAQ Coordinator's Guide*.

Typical HVAC System



Ventilation Log

Instructions:

- ❑ Make one copy of this Checklist and Log for **each** ventilation unit in your school.
- ❑ Perform the activities on the Checklist and Log for **each** ventilation unit and record your results.
- ❑ One column is provided for each inspection. Put the date at the top of the column, and initial each response. For subsequent inspections on the same unit, move to the next column until the sheet is full.
- ❑ A "No" response requires further attention.

Name

School

Room or Area

ACTIVITY	NEEDS ATTENTION IF "NO"	DATE: INITIALS	NEEDS ATTENTION IF "NO"	DATE: INITIALS	NEEDS ATTENTION IF "NO"	DATE: INITIALS
Outdoor Air Intakes (see page 5 for more information)						
1. Outdoor air intakes not obstructed	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
2. Outdoor air intake clear of nearby pollutant sources	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
3. Outdoor air moving into intake	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
System Cleanliness (see pages 5-6 for more information)						
4. Filters in good condition, properly installed, and no major air leaks	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
5. Drain pan clean and no standing water	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
6. Heating and cooling coil(s) clean	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
7. Interior of air handling unit and ductwork clean	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
8. Mechanical room free of trash and chemicals	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
Controls for Outdoor Air Supply (see pages 6-8 for more information)						
9. Controls information on hand	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
10. Clocks, timers, and switches properly set	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
11. Pneumatic controls okay	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
12 Outdoor air damper operating properly	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	

ACTIVITY	NEEDS ATTENTION IF "NO"	DATE: INITIALS	NEEDS ATTENTION IF "NO"	DATE: INITIALS	NEEDS ATTENTION IF "NO"	DATE: INITIALS
Controls for Outdoor Air Supply (continued)						
13. Freeze-stat reset	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
14. Mixed air thermostat set properly	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
15. Economizer set per specifications	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
16. Fans supplying outdoor air operate continuously during occupied periods	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
Air Distribution (see pages 8-9 for more information)						
17. Air distribution function per design	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
18. Air flow direction (relative pressures) okay	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
Exhaust Systems (see page 9 for more information)						
19. Exhaust fans operating	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
20. Local exhaust fan(s) remove enough air to eliminate odors and chemical fumes	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
21. Exhaust ductwork sealed and in good condition	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	
Quantity and Adequacy of Outdoor Air Supply (see page 9-13 for more information)						
22. Measure quantity of outdoor air a. outdoor air supply b. number of occupants served by this unit c. CFM/occupants (a ÷ b) Meets original design specs?	____ ____ ____		____ ____ ____		____ ____ ____	
23. Recommendation in Table 1 for this type of area: _____	❑ Yes ❑ No		❑ Yes ❑ No		❑ Yes ❑ No	