Achieving reliable ventilation effectiveness in relatively tight homes requires a balanced system. Heat recovery ventilators, HRVs, are the optimal home ventilation system for the Northwest. Energy recovery ventilators, ERVs, are better suited for humid climates and both in the main living area.

Energy recovery ventilators, ERVs, are better suited for humid climates and both in the main living area. Heat recovery ventilators, HRVs, are the optimal home ventilation system for achieving reliable ventilation effectiveness in relatively tight homes. HRVs are designed to capture and transfer heat between the incoming and outgoing airstreams.

The fan efficacy indicates the amount of air that can be moved per unit of energy used. Efficacy lower than 1.25 CFM/watt may still transfer heat from airstreams efficiently, but risks using higher fan energy. High Efficacy = Low Energy Costs. HRV supply and exhaust air vents should be >10 ft. apart. Never install vents on a roof. Damper operation.

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**SRE > 90 Percent** = High Efficiency

High SRE leads to maximum comfort. The SRE indicates how efficient an HRV is at capturing heat transfer between the incoming and outgoing airstreams. SRE lower than 80 percent will increase energy consumption.

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**ASE > 85 Percent** = High Effectiveness

High ASE leads to maximum comfort. The ASE of an HRV indicates how well the delivered air will be in winter and how cool it will be in summer. ASE lower than 85 percent may result in comfort issues and therefore discontinued use of the system.

Efficiency considerations

For efficiency and comfort, the system must have high SRE, high ASE and high efficacy.

**High SRE** = [SRE > 80 Percent] = [SRE > 85 Percent] = High Effectiveness

The SRE indicates how efficient an HRV is at capturing heat transfer between the incoming and outgoing airstreams. SRE lower than 80 percent will increase energy consumption.

**High Efficacy** = [CFM/energy] = [CFM/energy] = Low Energy Costs

The fan efficacy indicates the amount of air that can be moved per unit of energy used. Efficacy lower than 1.25 CFM/watt may still transfer heat from airstreams efficiently, but risks using higher fan energy.

Seal and insulate all ducts.

Install elbow where possible, and seal all ducts inside a conditioned space and inside all ducts outside of conditioned space.

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