

FOR VERY LIGHT LOADS, CONNECTING A HOT-WATER COIL TO AN ERV IS AN OPTION

IF YOUR HEATING LOAD IS VERY LOW, you might consider heating your house with a hot-water coil in a ventilation duct. First promoted by Passive House builders in Europe, such systems are now being installed by a few cutting-edge builders in the United States.

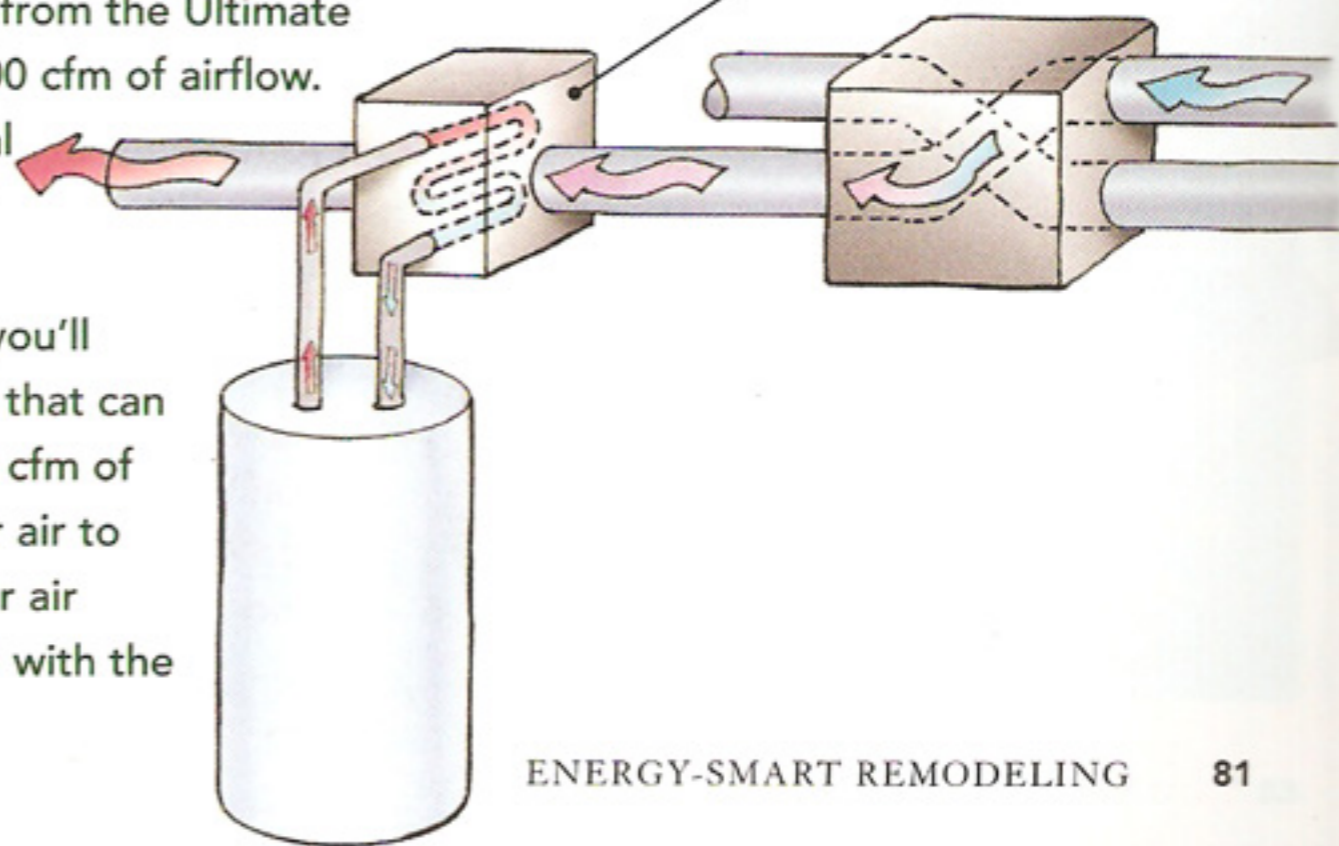
In a home with a ducted ventilation system incorporating a heat-recovery ventilator (HRV) or an energy-recovery ventilator (ERV), a hot-water coil can be installed downstream from the main fresh-air supply duct. The hot water can be supplied by an ordinary tank-style water heater—not an efficient heat source, but one that makes sense if your heating load is low. One ERV manufacturer, Ultimate Air, offers

a hot-water coil unit (including a heat-exchange coil, an insulated metal cabinet, a Grundfos circulator, and a control unit) for \$936. If the Ultimate Air coil is supplied with 160°F water and 200 cfm of airflow, it can provide 8700 Btu/hour of heat—not much, but enough for a small Passive House.

Full-heat output from the Ultimate Air coil requires 200 cfm of airflow.

Because the typical ERV supplies only about 50 cfm of fresh outdoor air, you'll need a second fan that can provide about 150 cfm of recirculated indoor air to the coil. The indoor air needs to be mixed with the

ventilation air from the ERV to bring the total airflow across the coil up to 200 cfm.



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