HOW IT WORKS

Model ERSA unit has two totally separate, opposite flowing, draw-through airstreams

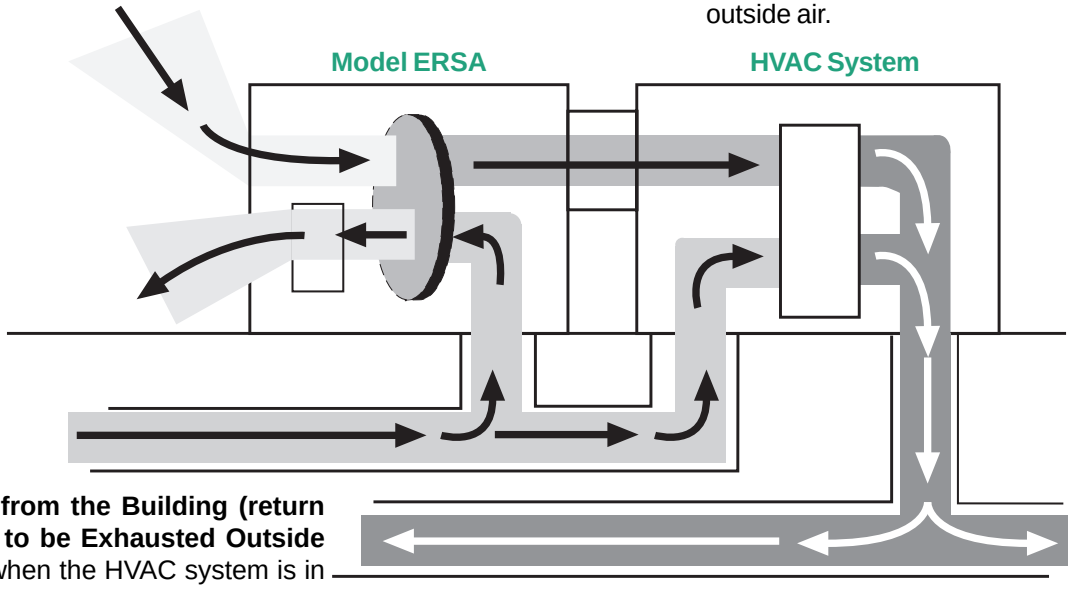
① Incoming fresh makeup air is “preconditioned.”
② "Preconditioned" air is discharged as supply air to the HVAC system.
③ Return, stale building air is vented through energy recovery wheel.
④ After passing through the wheel, this air is exhausted to the outdoors.

The energy recovery wheel transfers energy from one airstream to the other. The HVAC system is then supplied with fresh makeup air that has been either heated or cooled with moisture added or removed, reducing the amount of energy required by that system to provide comfort-level air to the building.

In the center of the cabinet, the energy recovery wheel slowly rotates through both airstreams transferring both sensible energy (temperature) and latent energy (humidity).

Fresh Makeup Air Pulled from Outside to Provide Ventilation to the Building — compared to air in the building, outside air is cooler and dryer in winter and warmer and more moist in summer; the ERSA unit greatly reduces those differences before the makeup air reaches the HVAC system.

The Return Air from Inside the Building is Exhausted to the Outdoors — in winter the return air “gives up” its energy to the energy recovery wheel; in summer the return air “picks up” heat and humidity from the wheel. **NOTE:** To lessen the possibility of recirculating exhaust air, the exhaust air outlet is on the control side -- "around the corner" from the outside air inlet.



Preconditioned Supply Air to be Ducted to the HVAC System — when the HVAC system is in the heating mode, the preconditioned makeup air entering the system is warmer and more moist than direct outside air; in the cooling mode, the preconditioned makeup air is cooler and dryer than direct outside air.

Air from the Building (return air) to be Exhausted Outside — when the HVAC system is in the heating mode, the energy recovery wheel “recovers” the heat and humidity in the return air by transferring it to the incoming air; when in the cooling mode, the wheel transfers the unwanted heat and humidity from the incoming air to the airstream being exhausted to the outdoors.