

Ask Jon Eakes

WHAT IS A PLANNED-HOLE-HIGH-IN-THE-HOUSE? 2

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Answer Two Any power exhaust ventilator taking its air from inside the house (bathroom fans, kitchen fans, clothes dryers, central all-house exhaust fans) will raise the neutral plane whatever the location of its input or output -- although they will be more effective if they draw air from high in the house. However, they only do this as long as they are running. To qualify as an effective planned-hole-high-in-the-house, if they do not qualify as an ascending gravity vent, the fan must be constantly operating. This can be a slow fan designed to change the air in the house once every two hours (the minimum for humidity control) and not cost any more (and perhaps less) than a gravity system in heat loss. More air-changing action, when needed, can be commanded by a second speed on the motor and a humidistat or manual override. Not all systems have this feature because the manufacturers don't think they could sell you on the idea of a fan blowing your heated air outside 24 hours a day. A leaky house throws four to five times more than this out anyway, and you must have minimum air changes, so you might as well have your necessary heat losses under control. Don't forget you need a controlled, fresh-air intake. How big a fan do you need? Measure the volume of air in your house in cubic feet and divide it by 120 minutes. 120 minutes will give you 1/2 air changes per hour. That will give you the cubic feet per minute which you will find on the fan label. Add ten per cent or twenty per cent to the calculated fan speed, if the duct is long, because it's got to work harder. The electricity to run the fan should cost less than 40 dollars a winter. Vent holes and exhaust fans served this air control purpose for many decades, but now it is full "air change" systems that fulfill this function in most new houses -- giving us the possibility of recovering energy from that outgoing stale air at the same time. See What is an HRV/ERV. [Click here](#) if you missed Answer One.

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