

SPECIAL CONCERNS OF HIGH-EFFICIENCY FURNACES

Homeowners are often surprised when their fairly new high-efficiency (or “condensing”) furnace shuts down unexpectedly in mid-winter. These furnaces exhaust combustion gases and bring in fresh air through white plastic PVC pipes to the outside, usually routed through a house sidewall. Often, the problem is ice build-up in the vent pipe, blocking the exhaust flow. In models that are 90% efficient or greater, the cooler exhaust produced can allow moisture (produced by combustion) to condense in the flue, especially when outdoor temperatures drop below 30 degrees.

The pipes can also be blocked outside the house. During wintry weather, you should check the exhaust and intake pipe exits on the outside of the house regularly, to make sure they aren’t covered by snow or ice. Besides shutting down the furnace, a blocked exhaust pipe can allow carbon monoxide to build up inside the house.

More rarely, the pipes may not have been installed correctly or may have developed problems later. If your newer furnace shuts down, check these common venting problems:

- Incorrect size of the exhaust pipe. Manufacturers specify the maximum length and number of elbows that pipe of a given diameter can handle.
- Not enough hangers to support the exhaust pipe, so condensate pools in low spots where the pipe sags, blocking the vent enough to trigger a furnace shut-down.
- Incorrect pitch of the exhaust pipe. The pipe should slope back toward the furnace, rather than towards the outside. The exhaust piping should slope at least 1/4-inch per foot, so condensate drains freely back into the furnace.
- Exhaust and intake pipe openings positioned too close to the ground, where they can be blocked by snow drifts or critters.
- Running exhaust and intake pipes out different sides of the house. The pipes must be next to each other so the wind pressure is the same on both.

These situations should be addressed by a professional.