

# Can I close off the fresh air to the furnace return duct?

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Phyllis from Regina, Saskatchewan wrote: "We live in a house that was built in the early 60's. The furnace has a vent that runs to the outside. I suspect this is bringing in fresh air. Is there a problem in closing off the vent for the winter? I think that the furnace would run more efficiently without it." No Phyllis, I don't think you want to close it off, but you may want to damper it down. There are often two separate vents that go to the outside for a forced air furnace. One brings air into the furnace room and dumps it on the floor. Its function is to provide air for the furnace burner and chimney. Many people erroneously close this one off because it freezes out the basement. However, the furnace needs this air to function properly. The best way to control this combustion air intake is to put a special Hoyme damper on it, which will close a motorised damper whenever the furnace doesn't need a flame. Look up "combustion air" in the keyword list to find details on the "Hoyme Combustion Air Damper". What I believe Phyllis is talking about is a duct that runs from the outdoors to the return air duct of the furnace and is designed to provide fresh air to the house, not to the furnace. This is in fact an easy way to get some fresh air into the house and have it heated by the furnace and distributed through house. This alone can often clear up condensation problems on the windows of many homes. It provides fresh air without drafts. But some homes get too dry with this source of winter fresh air. Rather than close it off, it is recommended that you install a damper in this line to allow you to turn it down, using window condensation as a guide for the right setting. As you can see in the illustration, this duct must be insulated as well because it will be as cold at the outdoors, and in Regina, that is very cold. One more detail, it should be installed six feet before the furnace, to allow for some mixing of the cold and warm air before this air hits the furnace heat exchanger. Yes this is more cold air to warm up, but in reality some cold air is going to come into the house through cold air drafts anyway. If the air can come in more easily through this controlled ductwork, you will get the fresh air you need in the house without the discomfort of drafts. This fresh air duct is like a first step towards a whole house ventilation system. If you do have such a system, the air goes into the air changer unit before going into the furnace return air duct. For more information on ventilation systems check the keywords for "HRV" (Heat Recovery Ventilators).

**Keywords:**

Furnace, Fresh Air, Forced Air, Duct, Ventilation