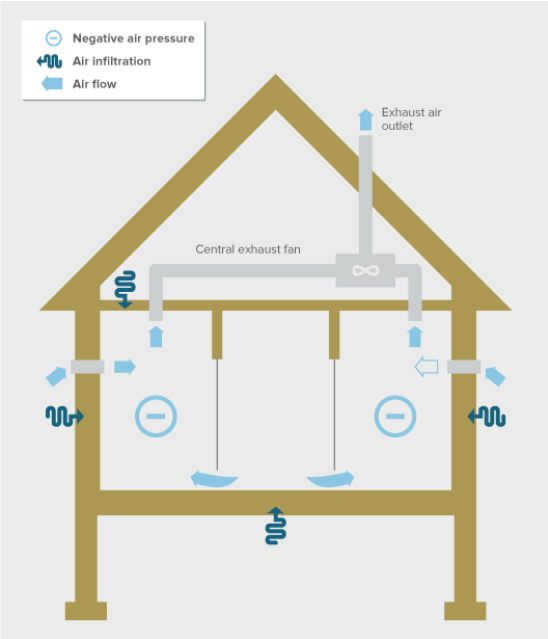
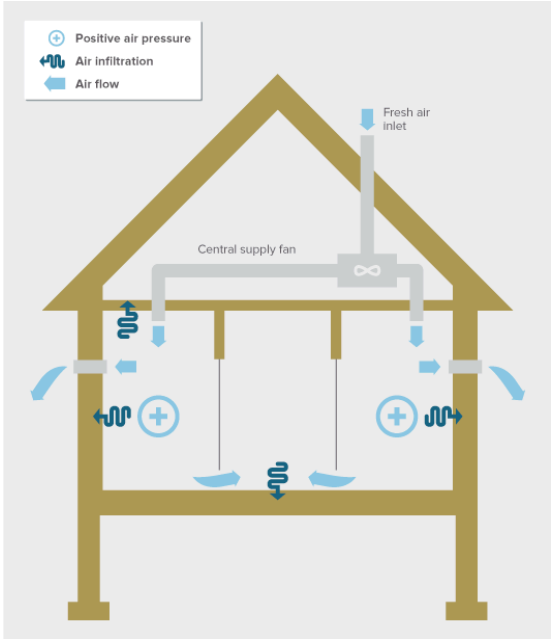
Exhaust ventilation



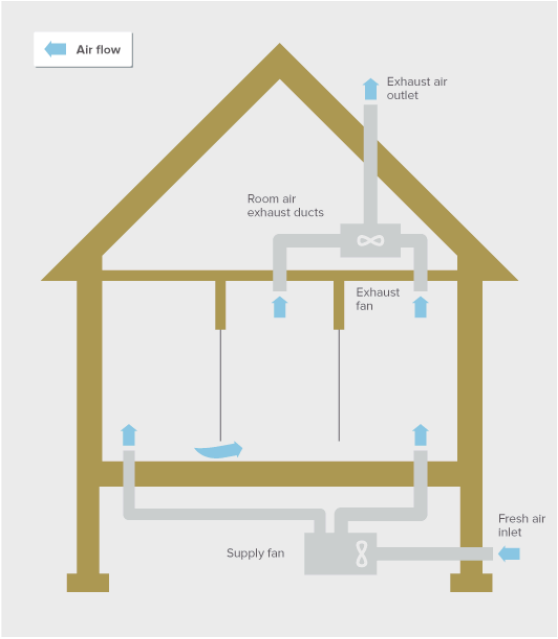
In this form of ventilation a local/central exhaust fan is used to ventilate the whole house from a single point or from multiple points (such as kitchen and bathrooms). It has to be ensured that the air moves freely within the house to the point of suction from where it is ventilated outside. Passive vents located at different points in the house (such as living and bedrooms) provide the necessary fresh air that has been removed by the exhaust. The supply air source is not controlled and hence it potentially results in the accumulation of pollutants and contaminats inside the sapce and may induce a negative pressure indoors.

Supply ventilation



Supply ventilation is opposite to exhaust ventilation. In supply systems the supply air is forced into a series of ductwork that distribute the air into various rooms. Supply ventilation offers better control of air than exhaust ventilation and also prevents backdrafting of comubustion gases and pollutants by adequately pressurizing the house. However, in cold and humid climates they may cause problems due to moisture and condensation which should be taken care of.

Balanced ventilation



Balanced ventilation systems is a mix of both exhaust and supply ventilation systems. The return stale air is generally removed either through a return air duct or a pressured plenum. In case of return air duct a separate ductwork for return air is laid besides supply air ducting and a separate exhaust fan to aid the circulation of return air. For plenum return of stale air, the air from all the rooms is connected into a pressurized plenum from where it is collected and returned. Balanced ventilation is the precondition for accomodating heat recovery system which saves considerable cooling and heating energy lost due to ventialtion.