

DUCT PLANNING

WARNINGS:

1. To reduce the risk of fire and to properly exhaust air, ducted fans must be vented to outside. Do not vent exhaust air into spaces within walls, ceilings, attics, crawl spaces or garages.
2. Improper installation, adjustment, alteration, service or maintenance can cause personal injury or property damage
3. To reduce the risk of fire, use only ductwork materials deemed acceptable by state, municipal and local codes.

NOTES:

1. Best performance is achieved by using round duct instead of rectangular, especially when elbows are required.
2. If multiple elbows are needed, ensure that there is a minimum of 24" of straight duct between any two elbows.
3. Avoid "S" or "back to back" configurations caused by adjacent elbows.
4. Thermal breaks, such as a short section of non-metallic duct, should be used in areas of extreme cold.
5. A back-draft damper at the duct outlet may also be required.
6. Do not use flexible metal duct.
7. Do not use ductwork that is smaller in cross-sectional area than the recommended size duct.
8. Do not rely on duct tape alone to seal duct joints. Use sheet metal screws as required to support the duct weight.
9. The vent hood and cooking appliance(s) must be removable if service is required.
10. Be certain that the ductwork does not interfere with floor joists or wall studs.
11. It is important to keep as few turns in the duct run, and to keep the run as short as possible.
12. Do not restrict the air flow by reducing the duct cross-sectional areas when making hard joints or squeezing through a tight area.

13. With concrete slab construction, "box-in" the ductwork to prevent it from collapsing when the wet concrete is poured. Also allow room for electrical conduit.
14. Cross-drafts or air currents caused by adjacent open windows or doors, HVAC outlets, ceiling fans and recessed ceiling lights reduce vent efficiency.

Higher volumes of air exhausted by the vent system result in better overall removal of smoke and fumes from the kitchen. Longer duct runs and greater numbers of duct transitions reduce air volume, therefore it is extremely important to keep duct runs as short and straight as possible.

To ensure that your installation meets this requirement, add the actual straight length of duct to the equivalent straight length of all duct fittings to determine the total equivalent straight length of duct. (Refer to the table below. Consider the duct size that corresponds to the majority of the duct used in the installation.

After determining that your proposed ductwork meets the maximum duct length requirement, proceed with the location planning.

	Equivalent Straight Feet
90° Elbow, 3 1/4" x 10"	15 ft.
90° Elbow, 8" Round	7 ft.
90° Elbow, 10" Round	5 ft.
45° Elbow, 3 1/4" x 10"	7 ft.
45° Elbow, 8" Round	3 ft.
45° Elbow, 10" Round	2 ft.
Straight Transition, 3 1/4" x 10" to 8" Round	4 ft.
Straight Transition, 3 1/4" x 10" to 10" Round	4 ft.
90° Transition, 3 1/4" x 10" to 8" Round	25 ft.
90° Transition, 3 1/4" x 10" to 10" Round	25 ft.