DUCT PLANNING GUIDE

dacor The Life of the Kitchen®

Duct Planning Guide

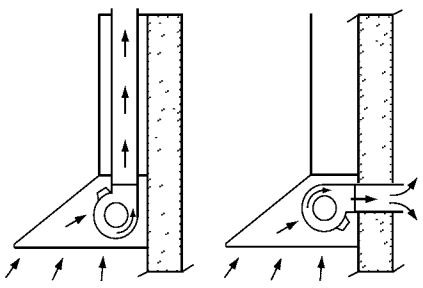
PLANNING GUIDE

⚠ WARNING

- All blowers, hoods and raised vents must be installed in accordance with the accompanying installation instructions.
- Observe all governing codes and ordinances during planning and installation. Use only duct work deemed acceptable by state, municipal and local codes and by the installation instructions. Contact your local building department for further information.
- To prevent combustion by-products, smoke or odors from entering the home and to improve efficiency, tape all duct joints securely.
- Hoods and vents may interrupt the proper flow of smoke and combustion gases from furnaces, gas water heaters and fireplaces. To avoid drawing lethal gases into the home, follow the manufacturer's recommendation for these devices and consult NFPA and ASHRAE recommendations.
- Improper installation may result in a back draft and/or the insufficient venting of smoke and fumes.
- For hoods or raised vents equipped with integral blowers, DO NOT install an additional in-line or external blower to increase the length of the duct run. For hoods or raised vents not equipped with integral blowers, DO NOT install more than one in-line or external blower. Even small differences between blower air flow rates can greatly reduce the air draw.
- To reduce the risk of fire and to properly exhaust air, be sure to duct air outside the house or building. Do not vent exhaust air into spaces within walls or ceilings or into attics, crawl spaces or garages.

General Design Requirements

All duct work materials (including screws and duct tape) must be purchased separately by the customer When planning new duct work, always look for the shortest, most direct route to the outside Some models can accommodate venting (and/or wiring) through the back



To prevent a back draft, never decrease the duct size over the run If existing duct work is smaller than 8 inches in diameter, remove it and replace it with 8" round, 10" inch round or 3 1/4" x 10" duct work Do not use duct work that is smaller in cross-sectional area than these recommended types Do not use flexible metal duct

Do not rely on tape alone to seal duct joints Fasten all connections with sheet metal screws and tape all joints with certified silver tape or duct tape Use sheet metal screws as required to support the duct weight

To prevent back-drafts, a damper at the duct outlet may also be required

Make sure duct work does not interfere with floor joists or wall studs

On dual exhaust models, the two 8" exhausts may be merged into one 10" duct using a Dacor transition kit See the installation instructions for details

With concrete slab construction, "box-in" the duct work to prevent it from collapsing when the wet concrete is poured Also allow room for electrical conduit

Calculating the Maximum Duct Run Length

The maximum straight duct length is determined by the type of hood or raised vent installed and type of duct used See the hood or raised vent specifications for the maximum duct run for the desired configuration

To determine the actual length the duct work cannot exceed, subtract all of the equivalent lengths of the elbows and transitions listed below from the maximum straight duct run from the hood/raised vent specifications After determining that your proposed duct work meets the maximum duct length requirement, proceed with the location planning

Equivalent Lengths			
Piece	**Subtract**	**Piece**	**Subtract**
8" 90° elbow	7 feet	10" 90° elbow	5 feet
8" 45° elbow	3 feet	10" 45° elbow	2 feet
3¼" X 10" to round 90° transition	25 feet	3¼" X 10" to 8"/10" round transition	4 feet
3 ¼" X 10" 45° elbow	7 feet	3 ¼" X 10" 90° elbow	15 feet
3 ¼" X 10" 90° flat elbow	20 feet		
Roof cap	*	Wall cap with damper	*

* The equivalent lengths of roof and wall caps vary with model and configuration For equivalent length, contact the manufacturer or a qualified HVAC specialist

Duct Work Design Tips

Wherever possible, reduce the number of transitions and turns to as few sharp angles as possible Two staggered 45° angles are better than one 90°

If multiple elbows are used, try to keep a minimum of 24" straight duct between them Avoid "S" or "back to back" use of adjacent elbows

Keep turns as far away from the hood or raised vent exhaust as possible, and as much space between bends as possible

For best performance, use round duct instead of rectangular, especially when elbows are required

Cross-drafts or air currents caused by adjacent open windows or doors, HVAC outlets, ceiling fans and recessed ceiling lights reduce vent efficiency