

# Your Indoor Comfort Starts with Professional Design

It's time to replace your heating and/or air conditioning system. This brochure will help you better understand the services you should expect from your heating and air conditioning contractor at change-out time. The contractor who provided you with this brochure is committed to designing and installing your new system professionally.

## A quality installation begins with a professional design

Unfortunately, some contractors merely size a new system based on the old system's capacity rather than completing a professional design. What if your home's heating and cooling needs have changed since the last system was installed many years ago? What if the original system was not sized properly to begin with? Guess work can lead to under-sizing your new system which can reduce the comfort of your home. Even worse, over-sizing will add unnecessary expense to the job's cost and may contribute to moisture-related problems down the line.

It takes time and expertise to complete a professional load calculation and system design. Contractors lacking in the necessary technical skills or who are just interested in making a "fast buck" may try to convince you this is not important. Would you want to ride an elevator or an airplane that was not professionally designed? Quality design is important in virtually every product we use including heating and air conditioning systems.

## The Load Calculation is where it all begins.

Year-round, comfort is the goal. In the summer, your air conditioning system not only cools your home's air (sensible cooling), it removes moisture (latent cooling). In the winter, your heating system must keep you comfortable without causing high utility bills. Your contractor will carefully measure your home and evaluate its levels of insulation. Windows' sizes and quantity will be noted, levels of infiltration will be estimated and internal loads including lighting and kitchen appliances will be taken into consideration. A computerized analysis will be completed that indicates just how much heating and/

or cooling capacity your new system should provide. After the installation of your new system is completed, you will receive a copy of the computerized load calculation for your records. Copyright 2002 by Air Conditioning Contractors of America Copyright 2002 by Air Conditioning Contractors of America

## Selecting the right equipment.

Heating and air conditioning equipment comes in many capacities, configurations and efficiencies. It's important that your contractor selects the right equipment that will be compatible with your home's heating and cooling needs. Once again, it's difficult for a contractor to select the right equipment if an accurate load calculation has not been completed.

## Don't forget about your home's duct system.

All too often, old heating and air conditioning systems are replaced without giving any thought to the old duct work. Properly installed and maintained duct work can last twenty years or more. But time, heat and humidity can degrade your duct's insulation. Over the years, your ducts may have collected contaminants that should be removed. Think about it. Have some of the rooms in your home been less comfortable than others? Too hot or too cold. Now is the time for your contractor to evaluate the amount of air each room should get and verify that your duct system is clean and configured to deliver the right air to the

right rooms. It may even be time to consider replacing your duct system. You won't get the full benefit of your new heating and/or air conditioning system if your ducts need repairing or replacing.'

## Grilles and registers provide for room air distribution.'

Your return air grille(s) and supply air registers play an important role in providing heating and air conditioning comfort. There are times when simply replacing one or more of these devices can cause a noticeable improvement in your home's thermal comfort. Return grilles that are undersized can reduce the efficiency of your air conditioning system as well as the comfort in your home. Your contractor will verify that these devices are sized and operating properly and may make suggestions for improved performance.

## Selecting the right contractor is key.

Buying a new heating and/or air conditioning system is a major decision - ranking just behind paying for your home, your cars and your children's college education. Selecting the right contractor to design and install your new system is essential. After all, homeowners only buy new heating and air conditioning systems once every ten or twenty years... maybe longer. Making sure your new system is designed and installed professionally is crucial to ensuring your home's comfort for many years to come.

ACCA is the nationwide nonprofit association of heating, ventilation, air condition, and refrigeration contracting businesses. For over 40 years, ACCA has provided education and research in support of efficient, safe and healthy heating and cooling systems. Learn more at [www.acca.org](http://www.acca.org).



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