

HEATING

Total Home Comfort planning series...Book 1

To help you plan for Total Home Comfort

Today, within the four walls of your home, you can be pretty much in charge of your own indoor climate. You can have a system installed that will let you control *heating, air conditioning, humidity, air cleaning and odors.*

The control of all these basic comfort factors makes it possible for you to have ideal indoor climate all year even though you may live in an area with seasonal problems of heat, cold, humidity, pollen or dust.

Such complete indoor control is now commonly called **TOTAL HOME COMFORT.**

Capabilities for **TOTAL HOME COMFORT** have advanced more in the last few years than in generations before. Today, most home planners agree that within a very short time, the majority of better new homes will include provisions for all five important factors: *Heating . . .* for whole house comfort; *Cooling . . .* automatically controlled throughout; *Humidity Control . . .* with moisture removal or addition as needed; *Air Cleaning . . .* with efficiencies up to 95%; and *Odor Control . . .* with odor neutralization and fragrance addition as desired.

The trend to Total Home Comfort calls for a new look at comfort possibilities for existing homes as well. Most homes have the potential for **TOTAL HOME COMFORT** and require only minor changes and equipment additions to make them truly modern.

In reviewing comfort plans for your home, remember the comfort refinements you will get to enjoy in the years ahead will depend to a large extent on you—your knowledge of the specific new features available, and your insistence on having the benefit of these advances now, instead of putting up with old-style, conventional systems of the past.



Comfort Heating...

Your first step toward Total Home Comfort

This booklet offers you information on modern HEATING as a part of Total Home Comfort. Here you will find a discussion of heating requirements and modern solutions . . . what new improvements to look for, special control features available, and how to avoid and correct common heating problems. You'll find this information extremely helpful as a reference for system planning and equipment selection.

To help with your additional planning, Honeywell has prepared similar booklets on air conditioning, humidity control and air cleaning. Copies may be available from your heating-cooling contractor, fuel supplier or utility. Or write directly to Honeywell, Merchandising Department, 740 Ellesmere Road, Scarborough, Ontario. Specify the books you want.

Most homeowners today can be a lot more comfortable in winter than they are!

Here are some of the modern heating comfort advancements you may be missing...

More Continuous Heat Supply. Today's better heating systems and controls are designed to work together to supply heat at a relatively even, continuous flow rather than in widely-spaced spurts. This more-steady delivery of heat eliminates hot blasts and cold chills. It is accomplished by more frequent burner operation and by more continuous circulation of the air or water through the system. The resulting continuous heat supply offsets the continuous drain of heat around doors and windows and through walls. It improves comfort by providing a steady flow of heat to keep the air in motion and thus avoids problems caused by the stratification of air into hot layers near the ceiling and cold layers near the floor. Some older systems can be adjusted and equipped with controls to provide more continuous heat flow. Others may need fairly major alterations to provide this important feature.

More Efficient Heat Production. Having an older heating unit that still works without trouble may be a source of pride to some owners — until they check comparative efficiencies with newer units. Usually they will find that a replacement could have been purchased many times over with the savings possible with newer, more efficient equipment. Today's improved heating units are the result of years of research by fuel companies, utilities, equipment manufacturers and university and trade associations.

Better Balanced Heat Distribution. Today's quality heating system is designed to allow adjustment to give balanced heat flow to meet basic conditions throughout your home. This adjustment must be done professionally after the system is installed and operating. In some homes, with heating problems, proper balancing has been neglected. In other homes, changing weather effects may temporarily shift the balance and cause some areas of the home to become uncomfortable. To offset this special problem, an improved system called zone control may be required. With zone control the flow of heat to each area is regulated automatically by an individual thermostat and valve or damper.

Improved Automatic Control Features. Merely having a heating system that is automatically controlled does not necessarily mean it will provide all the automatic features you want. You'll do well to investigate such questions as: Are the controls a matched team made by the same manufacturer or are they a hodgepodge of different brands selected on the basis of price only? Do they include programmed safe lighting? Is provision included for later addition of cooling? Will you have automatic day-night thermostat control? Such improved features can be yours, now! Poor control can be costly. When faced with erratic room temperatures, most people tend to raise the thermostat setting to minimize chills. This additional heat can cause serious overheating in some rooms and can raise fuel costs 2-3% per degree of overheating.

More Attractive and Compact Units . . . Quiet Operation. Today you can replace old-fashioned, bulky registers and radiators and the big boiler or furnace of yesterday with new, space-saving, improved-efficiency models. When you are planning for a new home or for modernizing your heating system, always try to see actual equipment or at least an accurate illustration and description of the model to be used. This will help you do a better job of evaluating equipment quality and its appearance in your home. Ask about features for quiet operation, too. Today you can get valves and burners that operate with a minimum of sound. You can also have a noise-deadening connection installed between the heating plant and distribution system to reduce sound transfer.



In many homes, the usable living space gets smaller as the winter winds blow stronger

Today's home is worth about \$2,000 to \$3,000 per room. In cold weather, you may retreat away from walls, windows or even from rooms and thus lose the use of much of your valuable living space. Often, a few dollars invested in system improvement can regain this space for you, and assure whole house comfort.

*Here's how your usable space may shrink
From foundation to roof*

Chilly floors, Hot Ceilings. You may be surprised at how often members of your family tuck their feet under as they sit, or otherwise keep their feet off the floor in certain rooms in cold weather. At the same time, you may find a layer of extremely hot air being wasted at the ceiling.

Some of these problems may be remedied by better insulation or weather-stripping. Most of them, however, indicate a need for heating system adjustment or modernization to provide more continuous heat flow to keep the air in motion. The heat now wasted at the ceiling can be used to help keep your floors more comfortable. A new, faster-cycling thermostat, teamed with system adjustment to give more constant system operation, is often the solution.

Cold basements or second floor rooms. How often do you or your children shift your entertainment from a basement amusement room or from an upstairs room to the main floor? Or perhaps, you've had to open a window to drain off excess heat, and drafts result. Is poor temperature control the reason these parts of your home are avoided?

The problem could be due to inadequate system sizing or adjustment. More likely, it's due to the fact that a single thermostat on one floor cannot gage temperature needs at all levels under all wind and weather conditions. A separate zone system for each area can usually correct the problem.





Here's how your usable space may shrink
From wall to wall

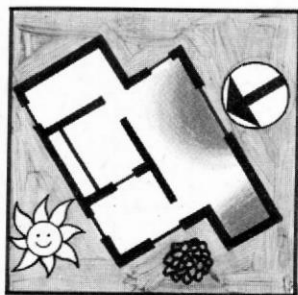
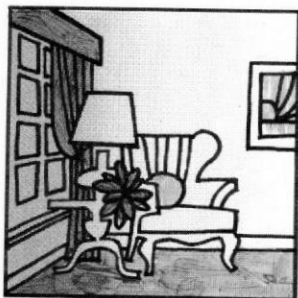
Uncomfortable parts of certain rooms. Are chairs moved away from windows or certain corners of a room? Are some parts of rooms drafty or exposed to blasts of heat? Consider the situation in each room.

As discussed earlier, the culprit could be a need for better insulation, double-pane windows or weatherstripping. It also might be due to poor location of heat outlets or an inadequately-sized system. Or it may merely call for system adjustment to assure a better heat flow pattern. Get your heating man to check your system for you.

Uncomfortable rooms or sections of your home. Many homes are haunted by "cold rooms" and "hot rooms". Often these vary with the weather. Sunny areas may be very hot while rooms that are not as sunny may be cold. At night, a reversed condition may occur due to the glass areas.

On windy days, those rooms most directly exposed may get quite chilly. The larger and more spread-out the design of the home, the greater the problem will be. Even fire-place heat or large gatherings of people may tend to upset the home's heating balance.

The problem is usually due to having but a single thermostat for the system and expecting it to gage the comfort needs of far distant rooms. The most effective answer is Honeywell zone control with a separate thermostat teamed with a damper or valve to control the heat to each major area.



It pays to get acquainted with today's choice of thermostat features



The thermostat supplied with your heating equipment usually is adequate for its basic job. However, it may not include the extra refinements you may prefer to match your personal living requirements and to fit the quality of your other home furnishings.

You'll do well to check into the features available and then make your wishes known. Actually, the difference in cost between the lowest priced and the most deluxe model is relatively small in comparison to other costs of the system and the importance of the thermostat.

If you are planning a system of zone control using a number of thermostats, you may want to select a specific type of thermostat for each zone to match the control to the area.

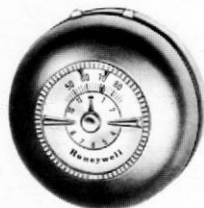


For most everyday applications

HONEYWELL ROUND THERMOSTAT

World's most popular thermostat. Maintains temperature at the point selected until the setting is manually changed. Accurate bimetal temperature sensing element. Sealed, dust-free mercury switch. Jewel-like picture window dial. Easy-to-

read numerals. Temperature indicator. Snap-off decorator cover. Handsome, neutral silver-bronze finish. Adjustable internal setting for matching to heating system needs. Models are available for both heating and heating-cooling applications. Also available is a matching heating-cooling subbase to give extra switching features for combination heating-cooling systems.



For variable-schedule day or night control

HONEYWELL DAY-NITE ROUND

Ideal for working couples who wish to save fuel while away during the day, or for homeowners who want cool sleeping. Features a built-in spring-wound timer.

Manual setting of the timer can give you reduced temperature for periods of up to 10½ hours. Automatically returns to warmer daytime setting to greet you with warm rooms again at the end of each timed period. Includes all basic engineering features of the Honeywell Round Thermostat. Offers special advantage of assuring pleasantly warm rooms when you return home at night or awake in the morning. Requires no extra wiring.

For completely-automatic day-night control

HONEYWELL CHRONOTHERM

(Electric Clock Thermostat)

Recommended for homeowners who wish to enjoy cool sleeping and fuel savings at night with deluxe, completely-automatic control. Follows automatic clock-timed, day-night temperature schedule.

Handsome electric clock lowers temperature each night for you automatically, and raises it each morning at the time desired. Highly accurate operation. Bimetal indicating thermometer. Fingertip day and night temperature selection levers for your convenience. Can be used with most 24-volt heating and/or cooling systems. Installation merely requires extra set of two-wires for low-voltage power supply to clock. Available with special subbase for cooling.



For deluxe, step-response heating and/or cooling control

HONEYWELL MULTI-STAGE THERMOSTAT

Particularly well suited to automatic changeover when you plan to have a combination heating-cooling system.

Can give two, three or four stages of control — up to two each of heating and/or cooling as desired for your system. Quality built throughout. Sensitive bimetal operation. Dust-proof mercury switches. Models available give stages of control in various combinations to match heating and heating-cooling system needs. Can provide manual or completely-automatic system changeover from heating to cooling, or vice versa. Handsome design, easily-read dials. Special models are available for heat-pump and for motel heating-cooling applications.



For low cost with performance dependability

HONEYWELL ECONOMY THERMOSTAT

These models are designed to offer you highly-reliable control at moderate prices. Although they do not include all of the design refinements of the higher-priced models, they still give you a number of special control features.

Included are such important design features as: bimetal sensing element away from the wall and exposed to good air sample; accurate, fast response; cycling rates available to meet recommended fuel and equipment performance requirements; bimetal indicating thermometer; fingertip setting lever; easily-read dials; neat, compact design. Models are available with a sealed, dust-proof mercury switch to provide extra assurance of trouble-free performance.



Five basic points worth checking in planning modern comfort heating for your home

1. Select a good basic system

The decision of whether to use gas, oil or electricity as the source of heat usually is based on local rates and personal preference. Likely, it will be an easy decision for you to make. But don't stop there. Also be sure your heating plant is selected from the quality line of a top-quality manufacturer. Make sure you are not getting a stripped-down, noisy model of the low-bid type.

Proper equipment sizing is also very important. Don't trust an installer who merely uses rule-of-thumb methods of system planning. Oversizing, as well as undersizing of equipment, can make true comfort control very difficult or impossible to obtain. Qualified heating men will check your home and calculate its heating system requirements very accurately. And because much of your system is installed on the site, remember, it is just as important to select a quality installer as quality equipment.

Your choice of a forced air or hydronic heat distribution system is also usually a matter of personal preference. Both have certain advantages that are best discussed with professional heating men based on your home plan and the specific comfort and system appearance features you want. Here again, consultation with a quality installer is very important. Your friends with homes can be very helpful sources of information, too. However, some homeowners tend to have very strong opinions based on limited experience, so you may need to evaluate their opinions accordingly.

2. Check for a matched system of controls

No matter what fuel you use or what kind of heating system you choose, it will include a team of controls to make the system's operation automatic. Separate controls will be used to: 1) Safeguard ignition or pilot flame; 2) Control fuel flow and burner operation; 3) Provide high limit safety; 4) Control fan or circulator operation; 5) Give room thermostat control.

If all of these five types of controls wear the same brand label, you can be pretty sure they've been selected as a quality matched team. If they look like a hodgepodge from various manufacturers, it may indicate price cuts have been made. Many of these controls may not be out in the open, so ask your heating man about them. And be sure to ask for the exact type of thermostat you want. The control system you get will hold a major key to your future comfort.

3. Stop the cold where it starts

Make sure you have adequate insulation, weatherstripping and double-pane glass or storm windows to meet the needs of your climate. The finest heating system in the world can't keep you warm if cold breezes are creeping in.

Heat outlets should be under windows and at selected locations along the outer perimeter walls of the home. This will help mix warm air with the cold at the place of entry to prevent cold drafts from forming. Also check with your installer about having properly-sized outlets and an adequate number of outlets and returns for each room area to avoid cold pockets.

4. Provide for proper heat distribution with special control as needed

Whether you have hydronic or forced air heating, provision should be included for system balancing cocks or dampers. These make it possible to shift the flow of heat as necessary to meet actual winter needs of your home after the system is in operation. They also make it possible to adjust for changes which may be required for later additions of rooms or other home alterations.

No matter how carefully your system may be balanced after installation, temporary local effects of indoor heat, such as from cooking, gathering of people or a fireplace heat, or shifting weather effects of sun, wind and outdoor temperature can seriously upset the home's heating balance. Serious unbalancing of heating need is most likely to occur in homes with such features as: large or spread-out floor plan, large glass areas, finished basement areas, rooms over unheated spaces and split level homes. It is well to consider whether one thermostat in a single location can really get a true temperature measurement to assure comfort in all parts of your home.

If you have home features which make for unbalanced heat requirements, you should seriously investigate zone control. With zone control, you can have a number of thermostats. Each provides separate control over a damper or valve to give continual automatic adjustment of heat flow to each major area of your home.

5. Avoid obsolescence with planned provision for total home comfort

In addition to providing for today's comfort heating, likely you'll also want to include provision for other Total Home Comfort features such as: cooling, humidity control and air cleaning. Whether you include these features immediately or later will depend on your own home improvement schedule.

With some types of heating, it may be possible to provide definite reserved spaces for easy later installation of cooling, humidity control and air cleaning. Other systems will allow for independent additions later, in keeping with your long-range comfort goals. Most important, make sure your heating system installer knows of the future system additions you want so he can plan his installation accordingly. A truly comfortable home always stays young.

The Next Step Is Yours

How soon can the achievement of modern HEATING COMFORT fit into your Total Home Comfort plans? If you are like most people you'll want cost figures to help you decide. Just call your local heating-cooling contractor, your fuel supplier, or utility. Through such sources you can easily obtain the prices you need, and without obligation.

In considering costs, remember—this type of home improvement usually adds to the resale value of your home as much or more than the system's cost. It's like money in the bank! So why wait? Why not call for an estimate right away!

Honeywell