

Finding the Right Refrigerator

Cold, hard facts about the biggest, most-used appliance in your kitchen

BY ROE A. OSBORN

Like most folks, when I'm hungry or thirsty, the first place I turn is the refrigerator. Whether it's an ice-cold beer after mowing the lawn, ingredients for the night's supper or just milk for my morning cereal, I reach for that chrome handle and open the refrigerator door without a second thought.

But refrigerators are more than just big boxes that keep things cold. These days, you can get one to fit under a counter or in a tight floor plan where you might have a narrow passageway. Some refrigerators disappear into the cabinetry, camouflaged as fine furniture. There are more options than ever before to consider as you track down the right refrigerator that fits your budget and your kitchen.

Refrigerators come in three basic styles (photos right, facing page): side-by-sides with the freezer beside the refrigerator, top-mounts with the freezer above the refrigerator and bottom-mounts with the freezer below. Each configuration has its advantages and disadvantages.

Side-by-side refrigerators are best for a kitchen with narrow passage

With side-by-side fridges, the doors to the refrigerator and freezer are the full height of the appliance, and as their name implies, the doors are next to each other. This setup makes for taller but narrower refrigerator and freezer sections. A side-by-side is a good choice if you have the wall space for a wider

fridge. One that fits within the standard cabinet width of 36 in. may not give you the refrigerator shelfwidth you need.

The narrower compartments can make it tough to store food on wide platters or in large dishes, such as lasagna pans. If you have doubts, bring your biggest, widest or most frequently used pans when you go shopping for your refrigerator.

Another drawback to having refrigerator doors that go almost to the floor is that you have to bend down to reach the drawers at the bottom of the fridge. The narrow width of the compartments also makes it more difficult to get at items on the back of the shelves.

One of the best things about a side-by-side is that the narrower doors don't block kitchen traffic as much when they're open. If kitchen space is limited or if your refrigerator is on a narrow traffic path, people can still pass by when the doors of a side-by-side are open. Opening the full-width doors of the other two configurations can bring kitchen traffic to an abrupt halt (photo left, p. 100).

No bending is required to reach the refrigerator of a bottom-mount

Most people open their refrigerators much more often than they open their freezers (up to 20 times more). As a consequence, fridges with the freezer below the refrigerator (bottom-mount) are popular. That's because the refrigerator's contents are all located from waist level to eye level—no bending is required to get to even the lowest part of





Side-by-side



Top-mount freezer



Bottom-mount freezer

THREE BASIC FRIDGE DESIGNS

Having the freezer on top of the refrigerator is the least-expensive option. But this style makes the most-used portion of the refrigerator harder to reach. Side-by-side fridges are great if you don't have aisle space for full-width doors. They give you better freezer access, but the narrow width limits the refrigerator's capacity. With the freezer on the bottom, the entire refrigerator compartment can be accessed without forcing you to bend over. Bottom-mount freezers that open as drawers offer better access than those with doors.

Built-in refrigerators, such as this Amana (now made by Viking), are the same depth as standard cabinets and other built-ins. With matching panels, a built-in fridge can look like part of the cabinetry.



Full-width refrigerator doors can block traffic. Opening the door to a refrigerator with a full-width door can bring traffic to a halt in a kitchen that has limited access.

Refrigeration where you need it most. Compact refrigerators such as this one from U-Line are made to fit under counters and let you put cold-food storage where it's needed most. Here, an icemaker has been paired with a refrigerator.

the refrigerator. The freezer, however, is another story.

To access most bottom-mount freezers, you open a door and then bend way down to get your frozen yogurt. I have a bottom-mount refrigerator, and getting to the back of its freezer is always a hands-and-knees event. Some bottom-mounts have slide-out baskets, but to get the basket out far enough to be useful, the freezer door has to be open almost 180°. Bottom-mount freezers that are set up like large drawers, such as those by Sub-Zero and Viking, make access to the freezer much easier.

Refrigerators with top-mount freezers are usually the least expensive. But as the lowest line that most manufacturers offer, top-mount fridges have fewer choices in size, finish and accessories, such as water and ice dispensers. Top-mount fridges have produce and meat lockers at crouch or bend-down level.

Built-in fridges blend into the cabinetry

As their name implies, built-in refrigerators are designed to blend in with the adjacent cabinets. The typical freestanding fridge can be up to 36 in. deep, which means it can stick out a foot past a standard 24-in. deep counter. A built-in fridge, on the other hand, is only 24 in. deep, allowing it to fit flush with base cabinets and other 24-in. deep built-ins

(photo left, p. 99). Manufacturers do this by moving the compressor from the back of the appliance to its top. So built-ins are taller—typically 84 in.—than ordinary fridges.

Unlike standard refrigerators, a built-in requires no space around its sides for ventilation. The telltale vent at its top takes care of all its ventilation needs. You can hide a standard fridge inside a custom cabinet, but you've still got to leave a gap around its sides for proper cooling.

The biggest negatives I've heard about built-in refrigerators involve money and pizza. First, a built-in refrigerator is going to put a lot more strain on your budget than a freestanding unit. It's tough to do an apples-to-apples price comparison, but built-in fridges can cost four or five times as much as similarly equipped freestanding fridges.

And believe it or not, I've heard people complain that the shallower depth of built-in refrigerators won't accommodate a large pizza box. You can always fold a pizza box, but this decreased depth could be a problem if you're used to refrigerating large dishes, such as platters of hors d'oeuvre.

If you can't afford a built-in refrigerator but you have the urge to dress up a freestanding model, consider Frigo (800-836-8746; frigodesign.com). They make panel and trim kits that can give your refrigerator virtually any look that matches your kitchen cabinets,



including curved front, stainless or wood panels. They even make a chalkboard for messages and doodling (photo right, p. 103). All you need to do is give them the make and model of your fridge, and they custom-make whatever face you'd like to put on it.

Counter-depth refrigerators are an economical compromise

So you don't have the big bucks for a high-end built-in fridge, but you still want a refrigerator that doesn't stick out past your countertop. Is there hope? Yes, in the form of a counter-depth fridge, such as the high-efficiency ConServ refrigerator.

A counter-depth refrigerator is a freestanding unit. But the body of the fridge is only 24 in. deep. The doors and handles are the only parts of a counter-depth fridge that stick out beyond the usual 24-in. cabinet depth. Counter-depth fridges are the same height as standard freestanding refrigerators, so they slide right into standard refrigerator spaces. Amana, GE, Frigidaire, Jenn-Air and KitchenAid all make counter-depth fridges. Most have these units in both side-by-side as well as bottom-mount configurations.

Another difference between a true built-in fridge and a freestanding fridge is the way the doors are hinged. Makers of built-ins have devised ingenious ways of hinging their slim-profile doors so that they open all the

way without interfering with surrounding cabinetry. Counter-depth refrigerators get around the problem by having their doors mounted beyond the 24-in. depth.

Hide that fridge under the counter

When I was a senior in college, I had a luxury that few of my fellow students enjoyed: an

"Refrigerators use more energy than any other appliance in the kitchen."

apartment-size refrigerator in my dorm room. In addition to the usual six-pack of Schlitz, my roomie and I kept everything we needed for quick student meals: milk, bagels, white bread and bologna. And my little fridge would have fit perfectly under my desk except for all the junk that also lived there.

Avanti, Danby, Haier, Marvel and U-Line all specialize in refrigerators designed to fit under standard-height kitchen counters (photo right, facing page). Sub-Zero and Viking also make undercounter refrigerators in addition to their line of full-size fridges. Un-

dercounter fridges range in capacity from 2 cu. ft. to 7 cu. ft., but most are around 4 cu. ft.

Most undercounter refrigerators come with doors that are easily reversible for right-handed or left-handed hinging. They also come as all refrigerator, all freezer or a combination of the two. Freezers in combo units are small and located within the refrigerator at the top of the unit.

These compact undercounter refrigerators can be ganged together to create a larger side-by-side fridge that fits under your countertop. These ganged units can pair up any combination of products that the companies offer, including refrigerators, freezers, icemakers or wine cellars.

Avanti, Haier and Danby also make "cube" style refrigerators 2 cu. ft. and smaller. And if you need more capacity than an undercounter fridge has to offer but you don't have room for a full-size refrigerator, all three companies make midsize or apartment-size fridges that range from 8 cu. ft. to 11 cu. ft. These midsize fridges are available as single-door units with the freezer built in to the refrigerator compartment or with a separate door for the freezer.

Just keep the meat and veggies in the drawer

Sub-Zero, the company that has set the pace for residential refrigeration for much of the



Cool drawers for fruits and veggies. Sub-Zero's built-in undercounter drawers look like regular kitchen drawers, and they provide better access to their contents.

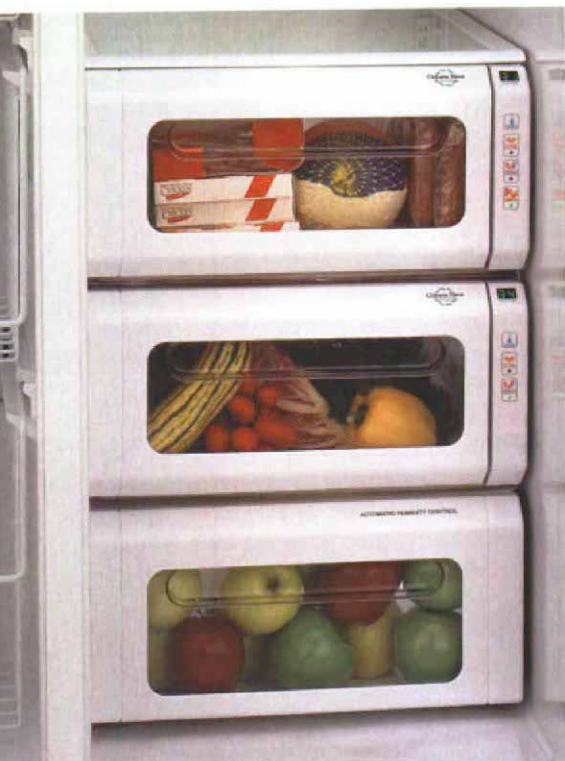
Refrigerators and energy efficiency

Your refrigerator is the largest appliance in your kitchen, and it runs around the clock, all year long. It's not surprising, then, that refrigerators use more energy than any other appliance in the kitchen. But these kilowatt crunchers have come a long way in recent years. According to a recent report from the Association of Home Appliance Manufacturers (AHAM; 202-872-5955; aham.org), manufacturers reduced the energy use of refrigerators a whopping 48% from 1980 to 1998.

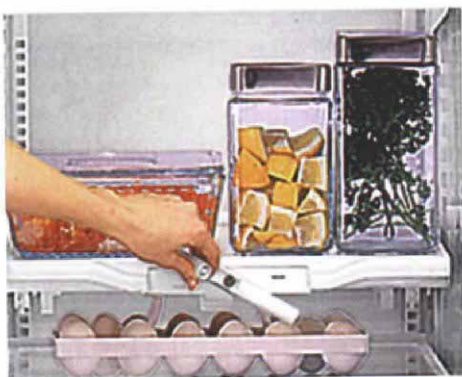
This reduction in energy consumption has come

from many fronts, including better and more effective insulation, more efficient compressors, better internal-air circulation, better gaskets and sealing systems, and more advanced controls. The AHAM report goes on to say that "at least 18% of U. S. households own refrigerators that are over 16 years old. If all of these households replaced their refrigerators today with a new model, they would collectively save over 11 billion kwh of energy in the first year. At the same time they would have saved over \$820 million in electricity costs."

So buying a new fridge makes good sense, economically and environmentally. The Department of Energy has set new energy-use guidelines that go into effect July 1, 2001. These standards require that refrigerators manufactured after that date be at least 30% more efficient than they were in 1993. The DOE ratings are based on fridge size and configuration. Your best bet when shopping for a refrigerator is to check out the yellow energy stickers that tell you the expected yearly costs for running that fridge. —R. A. O.



Climate control for your food. Refrigerator drawers or crispers are supposed to provide a specialized environment for meat and vegetables by controlling temperature and humidity. Maytag's ClimateZone lets you customize conditions in each drawer.



Shelves don't have to be empty to adjust. The elevator shelves available on Jenn-Air and Maytag fridges can be cranked up or down while fully loaded.

past couple of decades, has taken under-counter refrigeration to a different level. Instead of a fridge under the counter with a door that demands bending or crouching for access, Sub-Zero has put undercounter refrigeration in drawers (photo p. 101) for about \$2,600.

With Sub-Zero's renowned built-in look, these drawers look like the rest of the drawers in the kitchen. But open the drawer, and you have access to refrigerated contents. One proviso here: Having all the drawer's contents laid out horizontally means that you may have to do some digging if items get stacked on top of each other, but certainly no more than is required to get an item from the back of a regular fridge with a door.

Crispers: Humidity and temperature are now adjustable

My wife and I have a great system for cleaning and organizing the fridge. I go through and organize the contents, but she makes the decisions whether to consign items to compost. Some of the most interesting and least recognizable former foods can be found in the refrigerator drawers.

These drawers, also known as crispers, are a challenge for refrigerator manufacturers. Crispers have to keep food cool without letting it freeze, and they have to fight the natural tendency of the refrigerator to dehumidify refrigerated air. Taking moisture out of the air can make lettuce limp or turn celery to rubber. (This is why you should store your veggies in plastic bags.)

Crispers for less expensive refrigerators are usually just a pair of plastic or enameled-metal drawers in the bottom of the fridge, one for meat and one for produce. The meat drawer is in the coldest spot in the fridge (typically on the bottom of a side-by-side).

Most crispers even in low-end fridges have some sort of humidity control, which is usually just louvers or vents on the drawer that inhibit or enhance circulation of normal refrigerator air in the crisper.

Temperature controls are more advanced on more expensive models. Many companies have digital temperature controls that let you set the temperature for the individual drawers, usually up to a 5°F difference.

One of the most interesting climate-controlled crisper systems is Maytag's ClimateZone (top photo). These folks have figured out a way to enclose each drawer in its own blanket of cold air rather than introduce cold air directly into the drawer. The temperature of each drawer can be tailored to whatever food you're storing, while the main refrigerator is kept at its own separate temperature. The ClimateZone preset temperatures are 31°F for meat, 34°F for produce and 39°F for citrus and certain other fruit, such as melon.

Glass fridge shelves contain spills

In our fridge, the odds of spilling any sort of liquid is in direct proportion to the color or stickiness of the liquid. I can't tell you how many times we've stowed a container of pickled beets only to find the next day that the container has tipped and spilled its rich red contents all over the last thing you'd like to see red, like leftover pasta or potatoes.

As you might have guessed, our fridge isn't equipped with spill-catching shelves. The wire shelves in our fridge allow for better air circulation, which supposedly keeps the fridge's temperature more even. But wire shelves don't hold liquid very well.

Instead of wire, manufacturers now offer spillproof shelves, glass shelves with raised edges that can hold a small amount of liquid. Additionally, many crisper covers are spill-

Refrigerator manufacturers

These refrigerator manufacturers are mentioned in this article.

Amana; (800) 843-0304;
amana.com
Avanti; (800) 323-5029;
avantiproducs.com
ConServ (Kyocera Solar);
(800) 544-6466
Danby; (800) 263-2629;
danby.com
Frigidaire; (800) 374-4432;
frigidaire.com
General Electric;
(800) 626-2000;

geappliances.com
Haier; (877) 337-3639;
haier.com
Jenn-Air; (800) 536-6247;
jennair.com
KitchenAid; (800) 422-1230;
kitchenaid.com
Marvel; (800) 428-6644;
marvelindustries.com
Maytag; (800) 688-9900;
maytag.com

Northland; (800) 223-3900;
northlandnka.com
Sears; (800) 349-4358;
www2.sears.com
Sub-Zero; (800) 222-7820;
subzero.com
U-Line; (414) 354-0300;
u-line.com
Viking; (888) 845-4641;
vikingrange.com
Whirlpool; (800) 253-1301;
whirlpool.com

proof, which is your last defense before that beet juice turns the refrigerator bottom red.

Adjusting refrigerator shelves is usually a simple matter—that is, if your fridge is empty. Just lift the shelf, and move it to the right level. And if you're like most folks, once the shelf heights are set for your needs, they are rarely changed. But say you suddenly need a taller space for that 22-lb. Thanksgiving turkey. Maytag and Jenn-Air both offer elevator shelves that move up or down with the turn of a crank (bottom photo, facing page). Other companies make flip-up shelves designed to give you instantly bigger space, and GE's QuickSpace shelf slides out of the way for more space on the shelf below.

Filtered water: an attractive option

One of the most healthful trends in refrigerators today is chilled filtered-water dispensers on refrigerator doors. Old-style dispensers supply water directly from the kitchen tap, and these dispensers are still the only choice on lower-end models. But the dispensers on most high-end fridges fill your glass with filtered water. These built-in filters are highly efficient, removing odors, sediment and even harmful waterborne minerals such as lead.

Water is filtered through replaceable cartridges usually in the back of the top shelf (photo bottom right). The Whirlpool and KitchenAid models have their filters at the bottom of the fridge, where they can be changed without emptying the top shelf (photo bottom left).

Most refrigerators that dispense cold water also dispense ice. Built-in icemakers have been around for a long time, and you don't have to have a dispenser to enjoy their benefits. But icemakers typically take up a lot of room in the freezer. So when shopping for a

fridge with an icemaker, make sure the freezer still has enough room after you subtract space for the icemaker.

Refrigerator prices

Pricing refrigerators is as confusing as pricing cars. Log onto virtually any manufacturer's Web site, and often what seem like identical models can be \$100 or more different in price. But here are some guidelines you can expect prices to follow.

The most inexpensive fridges are top-mount, and they run from 1350 to \$1,400. Standard-depth bottom-mount fridges can cost \$600 to \$1,600, but counter-depth models can double that cost. And true built-in bottom-mount fridges can run as high as \$5,000.

Side-by-side refrigerators also have a wide price range. Standard-depth side-by-sides can run from \$750 to \$2,700, and like bottom-mounts, counter-depth models run higher. The big built-in side-by-side fridges can cost more than \$10,000.

Start your search by choosing the configuration that best fits your kitchen plan. Then make a wish list of the items you'd like: icemaker, dispenser, filtered water, special crispers, etc. Take this info and your budget data to the Web or to your local appliance dealer, and get busy. □

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Any finish for any fridge. Instead of shelling out big bucks for a fridge with an expensive finish, upgrade yours with a Frigo kit. You can choose anything from stainless steel to this chalkboard.

FILTERED WATER IN THE FRIDGE?



Filtered water, convenient and healthful. Most refrigerators that have a water dispenser can be fitted with a water filter, and most filters are in the refrigerator compartment, such as GE's water system by Culligan (photo right). Whirlpool and KitchenAid have their filter in the kickplate of the refrigerator (photo left).