Convection FAQs

Convection ovens are relatively new in the residential oven market. For years, they have been used in commercial bakeries and pizzerias. The reason these bakeries used them is because the added airflow browned their breads faster and more evenly. Pizzerias used them to cook the top and the bottom of the pizzas at the same time and much quicker than normal (hence the 30 minutes or less!). Since these ovens were so effective, the same theory of convection ovens was brought into home use. Not all convection ovens are made alike, though. "True," "European," "Pure," and "Fan-Assisted" are just a few of the phrases thrown into the mix to confuse a consumer about their ovens. Through my extensive research of convection ovens, I found a few very important tips as far as determining one from another.

First, to get the most even airflow, the element must be in the rear of the oven. This was the hardest fact for me to grasp when I first started using these ovens. I can see the electric coil along the bottom of the oven- isn't this the one that is giving the radiant heat inside of the cell? A rear element is often covered by a "baffle," or the back wall of the oven cell. It is called a baffle because it channels the air strategically to reach each rack position evenly. To the bakers, it means no more shuffling cookies from one rack to another, or turning them around half way through the baking cycle. It is simplifying the baking process, which is what convection ovens were meant to do in the first place.

Second, this rear element needs a fan to circulate the air. I suggest one that uses "reverse air flow." What this means is the fan is pulling the air in, not blowing the air out. Again, really hard for me to grasp this concept. I can see a fan in the back of the oven, and it doesn't blow out? No, it pulls in. This design is brilliant in a couple of respects. It draws the cool air in, passes it by the element that surrounds the fan, and then pushes the air out through holes in the baffle wall. If you think about it, a fan blowing out would be hotter in one spot than another. Its harsh air would blow directly onto the rack, creating uneven baking. But since the air is pulled in by the fan, then gently pushed out through the holes, it will create a gentler environment for your delicate baked goods.

Finally, a filter placed in front of the fan would cause the oven to run a lot cleaner. Since the air is drawn in, grease and particles from roasts and chickens would catch in the filter, instead of hitting the fan and splattering all over the oven cell. A triple mesh stainless filter is most important especially if you need to cook more than one item in the oven at a time. Have you ever baked a roast chicken and a loaf of bread at a time? Probably not, in fear of having a greasy loaf of bread that tastes like chicken! Since this filter will catch the particles that transfer from one to another, you can bake them at the same time. I have tried this with a salmon filet and spice cake, shrimp scampi and crescent rolls, and even bacon with cinnamon rolls. No flavors were transferred.

So, when selecting a convection oven, think baffle, element, fan and filter for successful convection cooking.
Now since the basics of convection ovens have been covered, here's a list of the most commonly asked questions:

Do I need to baste my roasts when using convection?
No, you don't need to baste roasts or turkeys. During roasting, the convection fan will quickly sear the meat, locking in all those valuable juices. Basting is not necessary. However, if you are using a marinade that is high in sugar, don't baste with the marinade until the last hour of the cooking process. This will allow the roast to get a beautiful sear without the sugary marinade burning onto it. Convection air will sear faster, even when it is a sugary marinade.

Do I need to preheat my convection oven?
Yes, all of Dacor's ovens need to be preheated, regardless of whether you are using a convection mode or not. In some modes, more than one element is used during preheat, which can cause the food to burn. The oven will tone when it has finished a preheat cycle, and the small "on" icon on the control panel will disappear. As a side not, one of the most important culinary tips I can give you is to always start with a hot oven or a hot pan. This gives you better control of your heat.

Do I need to pan-sear smaller cuts of meat before transferring them to the oven, or will convection have the same effect?
A lot of recipes from cooking school required us to pan sear a steak, for instance, then transfer it to an oven to finish it to doneness. I would still finish the steak in this same manner because it will cook for a relatively short period of time, and without the pan sear, the steak may not get the beautiful caramelization you are looking for.

Do I need special pots and pans for a convection oven?
No, you do not need special cookware. Some cookware, however, will work better than others in a convection oven. Light- colored or bright aluminum would be the best bakeware. Anodized finishes on bakeware can cause foods to brown too quickly. Nonstick finishes over aluminum bakeware will work fine.

Earthenware, ceramic dishes, and some glass dishes are not efficient at conducting heat, so they require the bottom element to be on. Convection Bake would be a great mode for this type of cookware. Cast iron pans used in the oven also need bottom heat, so convection bake would be a great mode for these applications.

As far as roasting, there is one special item you will need- a V-shaped roasting rack that will fit inside of a roasting pan. There are large ones for turkeys and roasts, and smaller, adjustable one for chickens and smaller cuts of meat. It is very important to lift the roast off of the bottom of the pan so

that the convection air is allowed to circulate all the way around it. This will not only give you a better sear, it will enable the top side to cook at the same rate as the bottom side. If you do not have a roasting rack, make a rack out of large- diced carrots, celery and onions. You will need enough to cover 2 inches on the bottom of a 3-inch pan. This will not only raise the roast up, it will add flavor.

Can I use Airbake pans? Airbake pans are designed with a pocket of air sandwiched between two aluminum sheets. The reason for this design is to buffer the heat coming up from the bottom of the oven cell. Remember that, in Pure Convection, your heat source is from the back of the oven, not the bottom. You don't need to buffer the heat from the bottom. Can you still use these pans during Pure Convection? Absolutely! In fact, they will also work well in Convection Bake and Standard Bake.

What are the best pots and pans for my Dacor Oven?
Any flat-bottomed pot or pan will work on a Dacor oven or range. As far as roasting, raising the roast up on an oven roasting rack inside of a roasting pan would allow the convection air to circulate all the way around, giving it a better sear. A deeper pan would prohibit the convection air to fully circulate around it. This may make the roast take longer to cook than stated in the Use & Care or Cooking guide manual. On the glass ETT and CER cooktops, glass cookware, such as Visions, and cast iron cookware are not our best conductors. Some brand names: All-Clad, Calphalon, Kitchenaid, Chantal, Circulon, Ananlon, Cuisinart

Can I use a baking stone or pizza stone in a convection oven?
Yes, with great success. These stones need to get really hot in order to get a crispy, brown sear on the bottom of pizzas and breads, so I recommend leaving them in during preheat. I also recommend using Convection Bake or Standard Bake, and use Rack position 1, counting up from the bottom, to place the stone. This will get it as close to the element as possible, which will allow it to reach an acceptable temperature.

Is there a difference between gas convection ovens and electric convection ovens?
Yes, there is. Gas convection ovens do not have a rear element, due to combustion issues. These gas ovens use a bottom flame that is located underneath the "floor" of the oven cell. The convection fan in the back circulates the heat coming up from the bottom. Therefore, air space of at least 1-inch on all sides must be left around the baking sheets or roasting pans.

Electric convection ovens use a rear element located on the back wall of the oven, which reaches each rack more evenly. Little to no air space needs to be left around the baking sheet.

Do foods cook faster in a convection oven?
Most roasted items will cook 30% faster than in conventional ovens. So, in a convection oven, meats get a better sear, cook faster, and stay moister and juicier.

Baked items don't lose much time at all, simply because they have shorter times altogether. Since the temperature is lowered is convection cooking, baked items need the full amount of time to cook correctly.

Do I need to lower the temperature during convection cooking?
Yes, lower the temperature from the original recipe by 25 degrees. Since there is added heat movement inside of the oven cell, the foods will sear faster. By lowering the temperature, the foods are able to cook at the same rate.

If I am at a high altitude, what do I need to know about convection cooking?
If you are at an altitude of over 3,000 feet, baking temperatures are normally increased by 25 degrees. In convection cooking, recipes are normally decreased 25 degrees. If you are at a high altitude with a convection oven, no adjustments need to be made to your recipes.

What the difference between Pure Convection and Convection Bake?
Pure convection uses the element that is behind the convection fan, whereas convection bake uses the element that is on the bottom of the oven and just the fan in the back. Pure convection is going to give you a more even heat since it radiates from the back of the oven to the front and is able to reach every rack position evenly. Convection bake will cook whatever is closest to the element first.
For pure convection, I cook roasts and baked goods, and especially any multi-racked foods.
For convection bake, think along the lines of items that need to be browned on the bottom or if you want them crisp on the bottom- like a pizza or a loaf bread, etc. In either case, be sure to lower your temperature by 25 degrees and reduce your time by about 25%.

Can I cook in glass bakeware in a convection oven?
Yes, you can use glass cookware in the oven. I usually do not lower the temperature more than just 25 degrees, though (Most glass bakeware manufacturers recommend that you lower 25 degrees when baking with glass, and Dacor recommends lowering the temperature 25 degrees when using a convection mode). I have had great success with baking cakes and roasting vegetables in a 9 x 13" glass baking dish. If you are using earthenware- casserole dishes that are really thick, clay or ceramic deep pots- convection bake or standard bake would be a better mode to cook in. The pot needs the bottom heat in order to cook the food correctly.

Do I have to lower the temperature *and* the time when using convection? In most cases, yes. During convection cooking, there is added heat movement inside of the oven. This will cause food to sear faster. Lowering the temperature will help the browning process to even out, so that the food continues to cook through at the same pace.

What is the advantage to roasting meats in convection? If properly raised up on a roasting rack, the convection quickly sear the roast, locking in valuable juices. It then continues to cook the roast. In some traditional recipes, it calls for searing the roast on a cooktop then transferring it to the oven. In Pure Convection, you don't need to do that because the convection air will sear the roast during this process.

How long does it take for the oven to preheat? It takes about 7-8 minutes for an oven to reach 350 degrees. It goes up a couple of minutes per 15 degrees from then on up.

What foods cook best on Standard Broil? Really thick items, like a steak, bone-in chicken or salmon fillet cook best on standard broil. Without the aide of the convection fan, these thicker items are allowed to cook more thoroughly, without searing rare.

What foods cook best on Convection Broil? Convection Broil mode is available on RSD30 ranges, RSE30 ranges, and the lower oven of a double convection wall oven (ECD30, PCD30, MCD230, ECD227, PCD227, MCD227). Seafood cooks wonderfully on convection broil. It gets a nice sear and cooks through. Since it usually requires shorter cooking time than thicker items, such as steak, convection broil will cook fish without having to flip it, which means it will not flake apart. Vegetables that are cut small will also cook well on Convection Broil. Garlic bread also is great on Convection Broil- it allows the butter to soak in the bread without burning too quickly.

Are there different types of convection? Not all convection ovens are made alike. "True," "European," "Pure," and "Fan-Assisted" are just a few of the phrases thrown into the mix to confuse a consumer about their ovens. "True" or "European" convection refers to the third element in the back of the oven cell. This is the most crucial part to achieve even baking in a convection oven. "Fan-Assisted" convection refers to using the bottom element along with the fan in the back to distribute the heat. This would be Dacor's Convection Bake mode.

How do you defrost in a convection oven? To defrost foods in a convection oven, set the oven on Pure Convection at 135°. Place the food on a rack inside of a roasting pan that will pick up any juices. Place the food in the oven on Rack position 3, counting up from the bottom. Periodically check the food for its progress.

Keep in mind that a turkey, or anything that takes an exceptional amount of time to defrost would not defrost well in a convection oven. Anything that would normally take over 2 hours to defrost would not work because it is left in the temperature danger zone (between temperatures of 40°- 140°) too long. If the turkey, rib roast, or other large cut of meat is partially defrosted, you may continue to defrost it in the convection oven.

Do I have to use the provided broiler pans? If you are broiling meats, I would highly recommend them. The broiler pan is designed to allow fats drain down below instead of hitting the element above. This helps eliminate flare-ups and excessive smoking.

If you are broiling garlic bread, a gratin of cheese, a casserole or something without a lot of fat, a heavy-duty sheet pan will work fine. Thinner sheet pans may buckle under intense heat, which may cause uneven broiling.

How do breads turn out in a convection oven? Breads turn out wonderful in a convection oven. They brown and rise nicely and evenly. You are able to bake more than one rack at a time in both Pure Convection and Convection Bake. Rack positions 2 and 4, counting up from the bottom, will give you the best results.

How to cakes turn out in a convection oven? Cakes can be very temperamental in any oven. They normally have a very light batter and are very light in color. If the batter is too thick, it will crack or create a dome on the top. If the batter is too thin, it will never rise. Cakes do brown and rise nicely on both convection modes. You can bake 2 layers on rack 2 and 2 layers on rack 4 to yield the best results.

How powerful is the fan during convection? Will I get items blowing around in the oven cell?
Remember that the fan is pulling air through the fan, not blowing it out. It will not pick up particles, foil, or anything light and blow it around in the oven cell. The fan may pick up some grease particles, but the filter that is in front of the fan will trap them.

How do you clean the filter? The filter is dishwasher safe. I prefer to soak it in a degreaser and hot, soapy water before placing it in the dishwasher.

How does the convection oven work?
What are the advantages to convection cooking?
Can I proof bread in my Dacor oven?
Do all convection ovens bake the same?
What does convection mean?
Why should you bring meats to room temperature before roasting or broiling them?
What rack position is best for broiling meats?

What is the difference between gas convection ovens and electric convection ovens?

How do the Dacor timers work?

- Timers can go up to 11 hours, 50 minutes.
- To set a timer, press "Timer 1" or "Timer 2"and the up arrow to reach the desired time. Holding your finger on the "Up" arrow will make it scroll faster.
- "Timer 1" has a series of short beeps that will sound for 2 minutes before automatically shutting off. "Timer 2" has a long then a short beep sequence that will also sound for 2 minutes.
- Press "Timer 1" or Timer 2" button once to turn the timer off after it has sounded. Pressing Cancel/Secure will cancel the timer along with the oven cooking function.
- To cancel the timer while it is in progress, press the "Timer 1" or "Timer 2" button 2 times.
- These timers are basically "egg" timers and can be used for any application in your kitchen. The oven does not need to be on in order to use the timers.

How does Timed Delay Bake work? I found it easier to explain this function using a recipe:

How does the Probe work?

- Probe is made of high temperature plastic and a stainless steel stem.
- The stem measures 4 ¾"
- The oven goes through preheat without the probe inserted, then once the preheat has toned, hit "Probe," then the "up" arrow to set the desired probe temperature.
- The temperature range that the probe will read is from 100 degrees to 200°.
- When setting the probe temperature, it will automatically default to 160°. Use the up or down arrows to set the desired temperature.
- After the probe has been inserted into the food, the temperature will default to 100° (even if the food has not reached that temperature yet), and the temperature will climb up in 1 degree increments until it reaches the set temperature.
- A tone will sound when the set temperature is reached.
- The probe plugs in the left side of the oven cavity.
- The oven will shut off after the food has reached the desired temperature and will hold and 150°. The residual heat of the oven, however, will cause the temperature in the food to continue to climb. If a consumer is not present to remove the food, the food can be easily overcooked.
- The probe does not withstand self cleaning temperatures and should not be left in the oven.
- Display will flash and beep "PRB" if probe is not inserted properly after setting the probe temperature.
- Correct places to place the probe stem:

- Do not place the probe near the bone or in the fat of the meat It should be placed in the meatiest part
- It is best to put it in dark meat as piercing white can cause the meat to dry out
- Do not remove the probe and reinsert it. This will cause the meat to dry out also.

What are the Minimum Safe Internal Temperatures for various foods?

Pork, Ham, sausage, and bacon in a microwave	180 F
All foods previously served and cooled that are Reheated	165 F within two hours
All poultry and game birds Turkey	165 F
Stuffed Meats	165 F
Stuffing	165 F
Ground beef and ground pork	165 F
Pork, ham, and bacon in another heating element	155 F
Fish and most other potentially hazardous foods not listed in this exhibit	145 F
Beef Roasts (rare)	145 F
Beef Steaks (rare)	145 F

A Word About Carry-over Cooking. After meat in pulled out of the oven, it will continue to cook. Carry- over cooking affects all foods, the larger the item, the longer the carry- over. It is best to let the meat rest after it comes out of the oven for 10 to 15 minutes. This will allow the meat to retain its juices and continue to set, making it easier to carve and cook to a safe temperature to serve.