

Cooking Guide





Introduction

Stellar Steam is pleased to present the Stellar Steam Cooking Guide. This collection of application information, cook times, and recipes for Stellar Steamers will benefit all foodservice operations or service providers.

Since the following collections are working documents, periodic updates will include timely application suggestions for current menu trends or food safety challenges along with recipes.

The following cook times are approximate and have been compiled to assist you in utilizing your Stellar Steamer. Your actual cook times may vary due to normal differences in raw ingredient quality, portion size, production quantity, room temperature, and the condition of product and your steamer at time of preparation. Your personal taste and “desired” degree of doneness will also effect cook times and will require some operator judgment and recipe testing.

Note: Capella heating times will be affected when refilling manually.
Consult factory for more information.

Preheating		
Low Temp (Phase 1)	180°F	9.30 min.
Normal (Phase 2)	212°F	2.45 min.
High Temp (Phase 3)	230°F	10.20 min.



Steam Cooking Tips

Cooking with Atmospheric Steam

Atmospheric Steam refers to steam generated at atmospheric pressure. Water will turn to steam at 212°F at atmospheric pressure. Water under pressure will turn to steam at higher temperature, and water in a vacuum will turn to steam at a lower temperature than 212°F. Cooking compartments making steam under pressure or in a vacuum cannot be opened without returning the compartment to atmospheric pressure. Both pressure and vacuum have stagnant steam because it cannot be vented and maintain pressure or vacuum. The stagnant steam condenses and is replaced by newly generated steam. Atmospheric steamers must vent steam; steam cooks by contact and atmospheric steamers constantly move steam across the food being cooked before venting the steam.

1. Atmospheric steaming is perfect for a la carte cooking. Of course, bulk product can be prepared as well. For bulk frozen product see Frozen Product.
2. The door can always be opened during cooking to add or remove pan of food, to season food or to check on its progress.
3. Multiple products can be cooked at one time because there is no crossover of cooking flavors in dry atmospheric steam. Large and small portions of food can be cooked at the same time.
4. Less attention is required for cooking foods and over-cooking is rare.
5. Preheat cooking compartment before steaming to make best use of Stellar's heat sink cooking compartment, which stores heat.

Frozen Product

1. Break up frozen vegetables or product, if possible. If not possible, stir to break up after partial steaming.
2. Bulk frozen product is the toughest job for any steamer. Since steam cooks by contact, not by its temperature, it's important to maximize steam's exposure to the ice in frozen product. For frozen product, never use a pan deeper than 2 1/2". Use perforated pans where possible. do not over pack frozen product. Allow steam circulation in the pan by packing food loosely.
3. A full load of thawed or chilled food will cook rapidly and quite evenly. A full load of frozen food will tend to cook less evenly because steam is drawn to the most accessible frozen product where it condenses immediately, creating a lower pressure allowing more steam to fill the void. For best results with a full load of frozen food use less than the maximum number of pans (3 pans in a 4 pan steam). This allows more space for steam to contact the frozen product. As an alternative, check the top pan at about 70% of your cooking time, remove this pan when cooked and move the bottom pan to the top and continue steaming.
4. If product is an ice block, set it in the pan on its narrowest side. This allows the steam to contact a greater surface area.
5. Thawing is faster and better for the food in atmospheric steaming than in pressure steamers.
6. Make sure frozen product is uniform in size to get best results.
7. When reheating prepared foods, stir occasionally to speed heating.
8. Blanching: many foods can be blanched in atmospheric steam before being finished in ovens, fryers, or on grills and griddles. This reduces total cooking time, helps insure complete cooking and a moist product. Potatoes, poultry and seafood are excellent examples. Blanching also reduces grease absorption by food products.

Proper Pan Use and Selection

1. For faster cook times, 2 1/2" deep perforated pans are recommended.
2. It is not necessary and we do not recommend covering most pans of product. When atmospheric steaming, a pan cover can increase the cooking time up to 400%. Items such as frozen casseroles, meat loaf, or sauces should be covered to avoid excess steam condensation. To cover use plastic wrap pressed down to rest on the surface of the product.
3. When cooking with only one pan, place it in the center of the cooker.
4. Use solid pans where appropriate: scrambled eggs, rice, beans, dehydrated foods, prepared casseroles, sauces, cake or other desserts (you can bake a cake in dry atmospheric steam), and when you want to prevent food from dripping on a lower pan.
5. When cooking proteins (meat, poultry or seafood) use a solid catch pan under the perforated pan. Accumulated juices can be used for soup stock, gravy or broth.
6. Protein foods can be cooked in perforated or solid pans. If you are batch-cooking protein foods use perforated pans and place a solid pan on the bottom rail. All the juices will then accumulate in this pan for later use and be kept out of the water reservoir.
7. When steaming pasta, shrimp, or ground meat, nesting a perforated pan in a solid pan works well. Simply lift out the perforated pan to drain.
8. Root vegetables should be steamed in a perforated pan. Always cook potatoes in perforated pans. This allows steam to circulate properly.
9. When possible, cook in two shallow pans instead of one deeper one - it cooks faster and you avoid bruising the product.

Tips and Tricks

1. Eggs can be hard cooked out of the shell and chopped to avoid peeling after cooking.
2. To skin tomatoes, oranges etc. more easily, steam for a short time, then chill in cold water.
3. Stale or frozen bread can be thawed or renewed in your steamer.
4. Pre-cook roasts, especially fat-encrusted roasts, in steam for 1/3 of their cooking time, then place in oven. Juices are sealed in, there is more flavor, more nutrients are retained and the roast shrinks less.
5. Cook whole poultry the same way, only cook it until it is nearly completed and allow just enough time in the oven to finish and brown.

Other Helpful Hints

1. Got a tough cleaning problem with a pot, pan, or utensil? Put it in your steamer to loosen burned on food; it makes washing much easier.
2. Allow adequate spacing between pans for even steam circulation. Your pan rails and the shape of the steamer walls are designed to maximize steam flow. Do not try to load more than the rack is designed for. Maximum capacity loads cook best with perforated pans.
3. Loosely packed pans will cook faster than pans that are tightly packed - steam cooks by contact, so good steam circulation speeds up cooking.
4. Never have the water high enough or a pan low enough to touch water. Allow enough space for steam circulation. Steam has 6 times more energy than boiling water - use the steam to cook.
5. If using 1/2 size or smaller pans on one level, with different products, load the faster cooking items last. This will make unloading easier.
6. In steam cooking, load size has little effect on the cooking time. for the highest efficiency cook with full loads.



Cooking Rice

In your Stellar Steamer open the door after 15-20 minutes of cooking, depending on load size, give the rice a stir and check for doneness. Steam cooking rice is very forgiving so it's not likely you will over cook it. Follow the basic rules below and experiment a little and you will have perfect rice every time.

As in all steaming, do not overfill the pans. Rice comes in many varieties, shapes and qualities and each can vary somewhat in cooking times and in the details of preparing for cooking.

Solid 2 1/2" deep pans should be used. Deeper pans will not give you the cooking speed or yields you are looking for. Do not cover the pans.

Your steamer should be fully warmed up before beginning to cook.

Open the door and stir rice occasionally during cooking to allow even cooking and even distribution of moisture. Opening the door affects your cooking time just slightly. Remove the pans to a safe work counter to stir. Do not try to stir in the steamer.

It is not required but soaking will shorten the cooking time; the longer you soak the shorter the cooking time typically. Soaking will require you to use more water.

When properly cooked there should be a trace of water at the bottom of the pan, under the rice. this will absorb into the rice as it sits.

If you want rice grains to be more individual, mix a little salad oil into the dry rice, not too much but enough to coat the grains. The oil binds the starch on the grains.

The moisture content in rice varies with the variety and with age. The older the rice the more water you need to cook it properly. Brown rice takes more time to tenderize than white because of the bran coat and germ. Short or medium grain rice cooks up tender and moist. Long grains cook more individually than short grains.

For par-boiled and seasoned rice mixes, follow the directions on the packaging.
One cup of raw rice equals about three cups of cooked rice; brown rice yields a little more.

For best results use no more than three pounds of white long grain rice per 12" by 20" by 2 1/2" deep pan. Add 3 1/2 to 4 cups of water per pound of rice. Make sure your Stellar Steam has been preheated and is in Steam or Super Steam mode. Note: Super Steam will reduce cook times by about 10%, but will use a little more water.

If you are steaming a single pan of rice, place it in the middle position of the cooking chamber. A single pan should be ready in about 23-28 minutes.

For four pans of rice loaded at one time (three pounds of rice per pan) allow about 40 minutes for cook time (less in Altair or Sirius models). Using solid pans with a full load your top pan may finish first; check it at 35 minutes and remove it if it is cooked evenly. Re-space the remaining pans.

With a three pan loading all three pans will finish at approximately the same time, 35 minutes for nine pounds of dry rice should be sufficient, check at 25 minutes.

U.S. Measurement Equivalents

3 teaspoons = 1 tablespoon
1/2 tablespoon = 1-1/2 teaspoons
1 tablespoon = 3 teaspoons
2 tablespoons = 1 fluid ounce
4 tablespoons = 1/4 cup
5-1/3 tablespoons = 1/3 cup
8 tablespoons = 1/2 cup
8 tablespoons = 4 fluid ounces
10-2/3 tablespoons = 2/3 cup
12 tablespoons = 3/4 cup
16 tablespoons = 1 cup
16 tablespoons = 8 fluid ounces
1/4 cup = 3 tablespoons
1/4 cup = 2 fluid ounces
1/3 cup = 5 tablespoons plus 1 teaspoon
1/2 cup = 8 tablespoons
1 cup = 16 tablespoons
1 cup = 8 fluid ounces
1 cup = 1/2 pint
2 cups = 1 pint
2 pints = 1 quart
4 quarts (liquid) = 1 gallon
8 quarts (dry) = 1 peck
1 kilogram = approximately 2 pounds
1 liter = approximately 4 cups or 1 quart



Fish	Fresh / Frozen	# and pan type	Cook time	Wt. / Ct.	Temp. Setting	Prep Tips:
Cod Filets	Frozen	1 perf	7min.	4.5 oz.	2	
Halibut	Frozen	1 perf	8 min.	6 oz.	2	
Salmon Filets	Frozen	1 perf	12 min.	7 oz.	2	
Salmon Filets	Fresh	1 perf	7 min.	7oz.	1	
Shrimp	Frozen	1 perf	20 min.	4 lbs. 21-25 Shrimp per pound	1	
Lobster	Fresh	1 perf	8 min.	6 oz.	2	
Clams	Fresh	1 perf	12 min.	7-8 oz.	2	Littleneck
Sea Scallops	Fresh	1 perf	7 min.	5 oz.	1	
Bay Scallops	Fresh	1 perf	7min.	3 oz.	1	

Note: Always use a perforated pan with seafood.

Meat & Poultry	Fresh / Frozen	# and pan type	Cook time	Wt. / Ct.	Temp. Setting	Prep Tips:
Chicken - deboned	Fresh	1 perf	35 min.	3 1/2 lbs.	2	
Chicken Breast	Fresh	1 -12"x20"	7-8 min.	2 1/2 lbs.	2	6-7 oz
Corned Beef	Fresh	1 -12"x20"	25 min.	4 lbs.	3	
Ground. Beef	Fresh	1 -12"x20"	12-14 min.	3 lbs.	2	80% lean
Cubed Beef	Fresh	1 -12"x20"	12-14 min.	4 lbs.	2	1" cuts
Hotdogs	Frozen	1 perf	7-8 min.	2 1/2 lbs.	3	10 hotdogs per pound
Hamburgers	Frozen	1 perf	6-8 min.	2 lbs.	2	5 hamburgers per pound
Sausage	Frozen	1 perf	8 min.	2 lbs..	2	Breakfast

Note: Always use a drip pan on bottom rack.

Vegetables	Fresh / Frozen	# and pan type	Cook time	Wt. / Ct.	Temp. Setting	Prep Tips:
Asparagus	Fresh	1 perf	5 min.	Full Pan	2	
Broccoli	Fresh	1 perf	4 min.	Full Pan	2	Florets
Broccoli	Fresh	1 perf	5-6 min.	Full Pan	2	Spears
Carrots	Fresh	1 perf	4 min.	Full Pan	2	Baby
Green Beans	Fresh	1 perf	5 min.	Full Pan	2	
Yellow Squash	Fresh	1 perf	3-4 min.	Full Pan	2	Slices
Red Potatoes	Fresh	1 perf	30 min.	Full Pan	3	Whole
Russet Potatoes	Fresh	1 perf	45-50 min.	Full Pan	3	
Butternut Squash	Fresh	1 perf	9-10 min.	Full Pan	3	Cubes
Corn on the Cob	Fresh	1 perf	8 min.	Full Pan	2	IQF
Corn on cob	Frozen	1 perf	14 min.	Full Pan	3	Slices
Zucchini	Fresh	1 perf	3-4 min.	Full Pan	2	IQF
Green Beans	Fresh	1 perf	7 min.	Full Pan	2	IQF
Baby Carrots	Fresh	1 perf	5 min.	Full Pan	3	IQF
Corn Nibbles	Frozen	1 perf	5 min.	Full Pan	3	IQF
Spinach	Frozen	1 perf	18-20 min.	3 lbs. Blocks	2	
Mixed Vegetables	Frozen	1 perf	10 min.	Full Pan	2	IQF

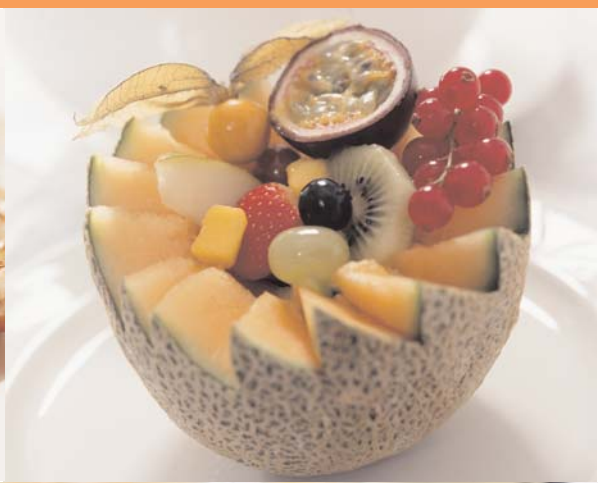


Pasta & Rice	Fresh / Frozen	# and pan type	Cook time	Wt. / Ct.	Temp. Setting	Prep Tips:
Long Grain Rice		1 -12"x20"	30 min.	Full Pan	3	
Brown Rice		1 -12"x20"	45 min.	Full Pan	3	
Black Beans		1 -12"x20"	75 min.	Full Pan	3	Soak Prior
Red Beans		1 -12"x20"	75 min.	Full Pan.	3	Soak Prior
Lentils		1 -12"x20"	30 min.	Full Pan	3	Soak Prior
Garbanzo		1 -12"x20"	75 min.	Full Pan	3	Soak Prior
Elbow Macaroni		1 -12"x20"	12-14 min.	3 lbs.	2	
Spaghetti		1 -12"x20"	12 min.	3 lbs.	2	
Egg Noodles		1 -12"x20"	12 min.	3 lbs.	2	

Note: Use perforated pan & solid pan inside each other. Fill pan with ingredient and water to just cover.

Eggs	Fresh / Frozen	# and pan type	Cook time	Wt. / Ct.	Temp. Setting	Prep Tips:
Scrambled	Fresh	1 -12"x20"	15-16 min.	1 Flat Pan	2	
Hardboiled	Fresh	1 perf	12 min.	12 each	2	
Poached	Fresh	1 -12"x20"	6-7 min.	12 Each	2	In Ramekins





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