Modernist Cooking Made Easy: Sous Vide

The Authoritative Guide to Low Temperature Precision Cooking

By Jason Logsdon

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Beginning Sous Vide

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Sous Vide Grilling

To my Mom,
who from an early age
gave me the confidence
to do anything I set my mind to

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PREFACE: WHY SOUS VIDE?

I initially got my start in modernist cooking when I began exploring the sous vide process. I was fascinated with the process and hooked on learning more about the new types of cooking. Since then I've expanded into other modernist techniques and worked with everything from whipping siphons to pressure cookers and blow torches; created foams, gels and spheres; made barrel aged cocktails and brewed beer.



But the one technique I use on a daily basis is sous vide.

Although sous vide cooking is not as "sexy" as some of the other modernist techniques it has two huge advantages for both the novice and experienced cook. Most importantly it will allow you to significantly increase the quality and consistency of the dishes you create on a daily basis. And for those of you whose lives are harried, the sous vide technique also allows you to create remarkable meals while working around your hectic schedule.

Over the last five years I've cooked hundreds of sous vide meals and written four cookbooks on the subject that have brought sous vide cooking into tens of thousands of home kitchens. I've used it for fancy modernist dishes, simple everyday post-work meals, food for parties and barbecues and everything in-between. With the introduction of several low-cost circulators, sous vide is more accessible than ever to the home cook. I decided it was time to take another look at sous vide and write a comprehensive primer for cooks of all experience levels.

This book uses my years of experience to demystify the sous vide process, serve as a reference for more than 80 cuts of meat and vegetables, and provide a collection of inspiring recipes to get you on your way to sous vide success.

Sous vide is a simple and extremely effective way to cook. This book covers every step of the sous vide process, from seasoning, sealing, and temperature control to how to determine the times and temperatures needed to turn out great food. There are also extensive write ups for the main types of food including steak and red meat, pork, fish and shellfish, eggs, fruits and vegetables, and more.

After reading this book you will be able to consistently prepare great food with a minimal amount of effort.

The bulk of this book is the more than 85 recipes it contains. Feel free to skim the recipes looking for something that inspires you, or turn to a specific recipe to learn all about how to cook the cut of meat it features. I have provided images of many of the dishes but for larger, full color images you can go to:

MCMeasy.com/SVGallery

To stay up to date with sous vide, modernist cooking, and what I am working on please:

Like my Facebook page at: www.facebook.com/ModernistCookingMadeEasy

Join my monthly newsletter at: MCMEasy.com/Newsletter

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If you enjoy this book I'd love it if you took the time to leave a review on Amazon.com, the reviews always help other people decide if they want to purchase the book or not.

Most importantly of all, remember to have fun!



Preface: Why Sous Vide?

SECTION ONE

UNDERSTANDING THE SOUS VIDE PROCESS

Introduction to Sous Vide



If you have any questions you can ask them in the Sous Vide Forums on my website. Just post your question and other cooks will weigh in with their answers.

You can find them on my website at: MCMEasy.com/Forums

Sous vide is one of the most popular modernist techniques and one that is pushing modernist cooking into the mainstream. From world class chefs like Thomas Keller and hit television shows like Iron Chef America and Top Chef to everyday restaurants like Panera, sous vide is popping up everywhere.

Sous vide can initially be an intimidating type of cooking and conceptually it can be very difficult because of its differences with traditional cooking. The various types of sous vide equipment, questions about vacuum sealing, and the science of the safety of sous vide can all play a part in confusing new cooks.

However, once you understand a few basics, sous vide cooking is one of the easiest and most foolproof ways to cook. In this book I'll give you the foundation you need to get started with sous vide including the basic process, the important safety information, and recommended setups you can use.

How Sous Vide Works

Sous vide, or low temperature precision cooking, is the process of cooking food at a very tightly controlled temperature, normally at the temperature the food will be served. This is a departure from traditional cooking methods that use high heat to cook the food, which must be removed at the exact moment it reaches the desired temperature.

The core tenant of sous vide cooking is that food should be cooked at the temperature it will be served. For instance, if you are cooking a steak to medium rare, you want to serve it at 131°F (55°C).

With traditional cooking methods you would cook it on a hot grill or oven at a minimum of 400°F to 500°F (204°C to 260°C) and pull it off at the right moment when the middle has reached 131°F (55°C). This results in a bulls eye effect of burnt meat on the outside turning to medium rare in the middle.

The same steak cooked sous vide would be cooked at 131°F (55°C) for several hours. This will result in the entire piece of meat being a perfectly cooked medium rare. The steak would then usually be quickly seared at high heat to add the flavorful, browned crust to it.



Sous vide was first used as an upscale culinary technique in kitchens in France in the 1970s and traditionally is the

process of cooking vacuum sealed food in a low temperature water bath. This process helps to achieve texture and doneness not found in other cooking techniques, as well as introducing many conveniences for a professional kitchen. Sous vide has slowly been spreading around the world in professional kitchens everywhere and is finally making the jump to home kitchens as information and inexpensive equipment has become more prevalent.

As sous vide has become more popular and moved to the home kitchen the term now encompasses both traditional "under vacuum" sous vide and also precision low temperature cooking of any kind. Some preparations rely on the vacuum pressure to change the texture of the food but in most cases the benefits of sous vide are realized in the controlled, low temperature cooking process, not the vacuum sealing. This means that fancy vacuum sealers can be set aside for home sealers or even Ziploc bags.

Sous Vide Technique

The actual process of cooking sous vide is very simple. You determine the temperature you'd like to cook your food to, say 131°F (55°C) for a medium-rare steak. Then you heat some water up to that temperature, seal your food in a vacuum bag or Ziploc bag and place it in the water until the food is heated through to the temperature of the water.

For foods that aren't tender (think pot roasts, short ribs, briskets, etc.) you can continue cooking it once it comes up to temperature until the food has been tenderized (sometimes up to 2 or 3 days!). Then just finish your food with a sear and you're all set!

I go into much more detail in the the subsequent chapters but here is a brief look at each step.

Pre-Sous Vide Preparation

Just like many traditional methods, you often will flavor the food before cooking it. This can be as simple as a sprinkling of salt and pepper or as complicated as adding an elaborate sauce, spice rub, or even smoking the food. Depending on the type of seasoning it can either be rubbed directly onto the food itself or added into the bag with the food.

For a detailed look at flavoring the food and other preparation techniques please see the "Pre-Sous Vide Preparation" chapter.

Seal the Food

Once the food has been seasoned and is ready to cook it is added to a sous vide bag, the air is removed, and the bag is sealed closed. Removing the air results in closer contact between the food and the water in the water bath. This helps to facilitate quicker cooking since water transfers heat more efficiently than air. Sealing also keeps the flavor of your food

contained and keeps the food from getting into you sous vide machine.



The most effective method of sealing food is with a chambered vacuum sealer but those are expensive and usually overkill for home use. I normally use regular Ziploc Freezer Bags, which work well for most foods, and sometimes I'll use a FoodSaver Vacuum Sealer for longer cooking foods or for higher temperatures. More information about sealing can be found in the "Sous Vide Sealing" chapter.

Heat and Maintain the Water

To cook the food you heat a quantity of water up to the temperature you will cook the food at. This temperature will normally be the same that you will want your food to end up.

There are many ways to heat up the water for sous vide cooking, ranging from your stove to expensive laboratory circulators. Luckily, there are more low-cost options available than ever and you can easily get started with sous vide cooking without spending a lot of money.

The temperature you cook the food will depend greatly on what it is. A detailed discussion of temperatures can be found in the "Determining Time and Temperatures" chapter and different equipment options are found in the "Sous Vide Temperature Control" chapter.



Cook the Food

Put the sous vide bag containing the food in the water and let it cook for the amount of time needed to either heat the food through, or to fully tenderize it. Depending on what you are cooking, this time frame can range from 15 minutes for some fish up to 3 days for short ribs and other tough cuts.

The "Determining Time and Temperatures" chapter looks closely at the different methods of determining cooking times.

Finish the Dish

To get a good finish and texture on your food, especially meats, it is almost always advisable to quickly sear it. This is usually done in hot pan, on a grill, or with a culinary blow torch. Some meals also call for other methods of finishing the food, such as breading and deep frying for chicken, or smoking for brisket.



You can also quickly chill the food in an ice bath which is ½ ice and ½ water and then refrigerate or freeze the food for

later re-heating. More details can be found in the "Sous Vide Finishing" chapter.

RECOMMENDED SOUS VIDE SETUPS

There are many different options when determining your sous vide setup and what you decide on will depend a lot on your situation.

Trying It Out

If you are just getting started with sous vide and want to see if it's right for you, I'd recommend trying beer cooler sous vide or sous vide on the stove first. They are both great ways to try out sous vide with minimal financial commitment. I go into more details in the "Sous Vide Temperature Control" chapter.

Recommended: Ready to Take the Plunge

If you know you are ready to really use sous vide cooking, then this is the set up for you. I'd recommend one of the new low-cost immersion circulators, they range from \$150-\$300 and can do almost anything you'd want to do at home. I would start out using Ziploc Freezer Bags but a FoodSaver vacuum sealer is always nice if you don't mind spending the extra money. This is the system I usually use at home.

Professional Setup

If you are using sous vide constantly or are in a professional kitchen you'll want to go with a higher-end circulator. I highly recommend the PolyScience Chef Series. A chambered vacuum sealer will also help with prepping and storing foods in a working kitchen.

SOUS VIDE SEALING



New vacuum sealers and other sous vide sealing devices come out often and you can find up to date reviews on the latest equipment at MCMeasy.com/Sealers

One of the more common questions I am asked is "What is the best way to seal your food for sous vide cooking?" There are so many options for sealing your food that it can get confusing figuring out exactly what you need.

There are several ways of doing it, ranging from large chambered vacuum sealers costing over a thousand dollars all the way down to Ziploc bags from the grocery store. Here's the low down on what you'll need to master the art of sealing your sous vide food.

WHAT DOES SEALING DO?

Since sous vide means "under vacuum" people understandably believe that the vacuum sealing process is critical to sous vide. However, this actually isn't the case. With a few minor exceptions, getting a vacuum seal isn't nearly as important to the sous vide process as just removing most of the air. There are a few things accomplished by sealing the food, as well as by removing the air.

Keeping the Flavors In

You don't want the food directly in the water or the water leaking into the sous vide bag. Sealing the food traps all the juices and flavor in the bags instead of losing it to the water bath.

Preventing Bags From Floating

Bags with air in them float, leaving parts of the food out of the water and potentially at dangerous temperatures. The more air you pull out, the less chance there is of floating.

Air Transmits Heat Poorly

Air is a really poor transmitter of heat compared to water (you can stick your hand in a 400°F (200°C) oven for a few seconds but sticking it in much cooler boiling water will scald you almost instantly). So removing all the air from the sous vide bag will result in a faster and more evenly cooked food.

Increased Holding Time

The biggest advantage vacuum sealing has over other types of sealing is that you can store the food for a longer time before and after cooking it. This is especially helpful in restaurants but usually doesn't come into play for most home kitchens.

TYPES OF SEALERS

There are many different ways to seal your food for sous vide cooking. I personally use normal Ziploc Freezer bags for 90% of my sous viding, with a smattering of FoodSaver bags for longer cooking times. Here's a look at several of the options, from most expensive to least expensive.

Chambered Vacuum Sealers

Chambered vacuum sealers are the best, and most expensive, method of sealing food for sous vide cooking. They are large devices that can suck out the air even if there are liquids in the bag. They usually have a variable vacuum strength you can

set, which is great for other modernist techniques like compression and infusing. However, they are usually overkill for home cooks.

Chambered vacuum sealers also come with downsides. They tend to run at least \$500 and up to more than \$1000. They are also big and heavy, most weigh between 50 to 85 pounds (22 to 39kg) which makes them hard to move from the counter top.



The most consistently highly rated chambered vacuum sealers are the VacMaster brand sealers. The two most common models are the VacMaster VP210 and the less powerful VacMaster VP112 but most of their models are highly regarded. The cost of bags is also pretty small for chambered sealers, running about \$0.14 per bag.

Edge Sealers

Edge sealers are a good intermediate step if you want the power of a vacuum sealer but don't want the bulk or expense of a chambered vacuum sealer. They are much less expensive, usually around \$100 to \$200 and are small and portable. They are also great if you often pre-package food at home since they help it last longer in the freezer without getting freezer burn.



The biggest downside to edge sealers is that they can't effectively seal bags with liquids in them. The pump will pull the liquids out with the air, preventing the bag from sealing well and potentially damaging the sucking mechanism. Edge sealers also can't get as great of a vacuum as chambered sealers and are usually not adjustable.

Another negative is that the bags themselves are very expensive, usually about \$0.75 per bag, or 5 times what a chambered sealer or Ziploc bag costs. I know several people who use Ziploc bags and set aside the \$0.50 difference every

time towards saving up for a chambered vacuum sealer.



The most common brand of edge sealer is the FoodSaver brand. Both the FoodSaver V2244 and FoodSaver V3240 models are highly regarded.

Ziploc Bags

Many people are surprised when I tell them that the type of sous vide bag I use most often is a standard Ziploc Freezer Bag, usually in the gallon size. They are inexpensive, easy to find, and very easy to use. They get almost as good of a seal as the edge sealers if you use the Water Displacement Method. They also handle liquids better than edge sealers so you can use sauces and marinades in your sous viding. And of course, the upfront cost of \$5 for 20 of them is hard to beat!



Another thing I really like about using Ziploc bags is that they are easy to open and re-seal. Many foods like sirloin, brisket, and pork shoulder have a lot of variety in the toughness of the meat and need different lengths of cooking time, which can be hard to determine before actually cooking them. The same holds true for many vegetables which require different cooking times based on their ripeness and the season they are picked.

With Ziplocs I can open the bag after the minimum amount of cooking time has passed and check the tenderness. If it needs more tenderizing I just re-seal the bag and put it back in the sous vide machine for a few more hours. When it's tender enough, I'll pull it out and it's ready to serve whenever I want. It really helps prevent under- and over-cooking foods.



Opening and re-sealing the bags is also helpful if the food has given off some gas and is starting to float. This often happens during longer cooks and it can be a pain to try and weigh down the bags.

With Ziplocs, you can release the gas, reseal the bag, and the food will easily stay below the water again.

The downside to Ziploc bags is the occasional leakage of water, especially for longer cooks at higher temperatures. If I'm cooking for longer than a day I'll often use my FoodSaver or at least double bag the food.

Water Displacement Method
Getting all the air out of Ziploc bags is critical but easy. Place the food in the bag, including any liquids or marinades, and seal all but one corner of the bag.
Place it in the water bath, being sure everything below the zip-line is covered by water. You can see how all the air is forced out of the bag. Then seal the rest of the bag.

I try to seal the food before the water has heated up but if the water is hot you can use a wooden spoon to hold the bag under. I almost always use the gallon size Ziplocs, I find the extra room at the top makes them easier to seal.









Other Containers

Depending on the type of food you are cooking you can also use high-quality food-safe plastic wrap, mason jars, oven bags, and ceramic ramekins. There are also hand pump bags, sous vide-specific "zip-top" bags, and other miscellaneous sealers but I've found that unless you're doing something specific (ramekins work great for custards, saran wrap is wonderful for roulades) either a chambered sealer, edge sealer, or Ziploc bag works best.

PLASTIC SAFETY

Another common concern of sous vide is cooking in plastic and whether or not this is dangerous. Many scientists and chefs believe that cooking in food grade plastic at these low temperatures does not pose any risk, the temperature is about equivalent to leaving a bottle of water in your car, or in a semi during transport, in summer.

However, I find it hard to believe that we know everything about how plastic reacts to heat, water, our bodies, and the environment. As such, I encourage you to read up on the safety of plastic in sous vide and plastic in general then come to your own conclusions about the safety of using these techniques or consuming products packaged or shipped in plastic.

GENERAL SEALING TIPS

Don't Stuff the Bags

In order to ensure proper cooking it's important to make sure the thickness of the food in your sous vide bags is relatively even. Don't force in extra food or layer the food in the bags. It's better to use multiple bags with a single layer of food than one large bag. Most recipes assume a single layer of food when determining the cooking time.

Freeze the Liquids

If you need to seal liquids using your edge vacuum sealer one easy method is to freeze the liquids first. Then you can add them to the sous vide bag and seal it. Once the food is in the water bath the liquid will unfreeze and work its magic. Two things to remember: 1) alcohol won't freeze and 2) if there is a large amount of liquid the seal on the bag won't be very tight because liquids are denser than ice.

Need Liquids? Use the Override

Many edge vacuum sealers have an override switch to seal the bag at its current vacuum state. If you need to seal liquids in the sous vide bag and you are using a high-temperature dish or you don't want to use Ziplocs then you can use this to remove a lot of air from the sous vide bag.

Fill the sous vide bag with the food and liquid. Place it in your vacuum sealer and then hang it off of a counter, so the

liquid is as far away from the sealer as possible. Be sure to support the bottom of the bag so you don't have a mess on your hands. Then begin the vacuuming process, watching the level of the liquid. As soon as the liquid nears the top of the

sous vide bag hit the "Seal" button, which should seal the bag without pulling the liquid all the way out.

SECTION TWO

Sous Vide Recipes

A WORD ABOUT THE RECIPES



I'm always adding more recipes to my website so for more inspiration you can check out the latest dishes:

MCMEasy.com/Recipes

This chapter contains all the information you need to successfully follow the recipes in this book and to maximize their flavor and presentation. It also gives you some hints for what to cook first, explains the time range in the recipes and discusses how to adapt your favorite recipes to sous vide.

WHAT SHOULD I SOUS VIDE FIRST?

I get asked a variation of this question all the time, even experienced sous vide cooks are wondering if they're missing out on a food they should be trying.

There are so many different things you can do with a sous vide machine that it can be hard to figure out what you want to try first. I think there's two categories of sous vide foods, things you can use sous vide to cook better, and things you can only do with sous vide. Here's some of my favorite things to do sous vide, all of which are covered by recipes in this book.

Things Sous Vide Does Better

Corned Beef

Corned beef can often turn out too dry for my liking but with sous vide you can really control the temperature and tweak the tenderness and dryness to your liking.

Pork Ribs

Not much can beat a slow smoked rack of ribs but when you don't have time to mind the smoker you can reach for your sous vide machine. With several options for times and temperatures you can tweak the ribs to be exactly how you like them.

Chicken Breasts



One of the things that sous vide excels at is cooking chicken breasts. Chicken becomes tough and overcooked so easily and it's so hard to do properly with traditional methods. Using sous vide makes cooking chicken breasts so easy and they turn out moist and tender every time.

Pork Chops and Loin



Pork has a reputation as being bland and dry. But with sous vide you can make awesome pork and it's one of my favorite

things to cook. I especially love pork chops, loin roasts, or tenderloin. I cook them at 140°F (60°C) which leaves a little pink in the middle, though my parents prefer it with no red at around 141°F (60.6°C). The pork turns out incredibly tender and moist even without brining them first.

Pork Sausages



Another food that's easy to overcook is sausage. The timing to ensure a well-cooked sausage with a nicely browned outside is very hard to hit exactly. Using sous vide takes the difficulty away and leaves you perfectly cooked sausages every time.

Chuck Roast



Another cut of meat that benefits from the long cooking times is chuck roast. You can do an awesome traditional "braised" chuck roast by cooking it at 160°F (71°C) for 24 hours.

Things Only Sous Vide Can Do

Cheap Sous Vide Steak

My favorite steak is rib eye but I can't afford to eat them all the time because they are so expensive. With sous vide you can buy a chuck roast or beef brisket for about a quarter of the cost, cook it for 2 days and you now have something that tastes very similar to rib eye for a fraction of the cost. I usually do my steaks at 131°F (55°C).

Burgers

I love a good medium-rare burger but you have to be careful where you order them from for safety reasons. With sous vide you can cook it long enough to pasteurize the meat so it's completely safe to eat. I like to do 2 to 3 hours at 131°F (55°C) then quickly sear them. They turn out a perfect medium rare all the way through and are incredibly juicy.

Salmon

Salmon is my favorite fish and I really enjoy trying it in lots of different preparations. Cooking salmon sous vide has opened up several new ways to try it. It's fun to try out the different temperatures and see what you like best.

French Style Scrambled Eggs
French style scrambled eggs are a creamy, almost custard like style of scrambled egg, a lot different than the sometimes rubbery American style ones. With sous vide they are easy to make and consistently come out super creamy.

Short Ribs



Sous vide short ribs are one of the dishes every one says you have to try when you get your machine. They turn out really tender but still not overcooked. They're really a staple of sous vide cooking.

MODERNIST NOTES

For many of the recipes I give Modernist Notes that you can follow to take the dish to another level. These notes take advantage of modernist ingredients or equipment and are a way you can slowly learn more about modernist cooking and how it is used in everyday cooking. The Modernist Notes are always optional so feel free to skip them if you are not interested.



The notes usually lay out a process to follow, plus the ingredients you will need. Just weigh the ingredients and add them as recommended. For more information on specific ingredients and techniques you can see my website or modernist books at MCMEasy.com/Easy.

WHY THE RANGE

One of the most common questions I get asked about my sous vide recipes is some variation of "the recipe says to cook it for 3 to 6 hours, but when is it actually done?"

The short answer is that anytime within the given range the food is "done". As long as the food has been in the water bath for more than the minimum time and less than the maximum time, then it is done. There isn't a specific magical moment of true doneness that can be generalized.

For those that want more information, here's the explanation why.

The How and Why

To have this conversation we first need to determine what "done" actually means. For sous vide there are two main "doneness" concerns when cooking your food. The first is to ensure that the food actually comes up to the temperature you are cooking it at (or becomes pasteurized at for some food). The second concern is making sure the food is tender enough to eat without being "over tender", mushy, or dry.

Once the food you are cooking is completely up to temperature and it is tenderized enough to eat (and not over tenderized), it is now "done". For some already tender cuts of meat like filets, loins, and chicken breasts you don't have to worry about tenderness since they start out that way. That means that these cuts are "done" once they get up to temperature.

However, despite them being "done" at the minimum time shown, they stay "done" for several hours past that time, depending on the starting tenderness of the meat. This is why I give a range. You can eat a 1" (25mm) cut of filet mignon after 50 minutes but you can also eat the filet up to 3 hours after it has gone into the bath without any loss in quality, tenderness, or flavor.

This is how my ranges are determined. They specify that for an average cut of the given meat, they will become "great to eat" tender at the minimum time given. They will continue to get more tender the longer they are in the bath but will remain "great to eat" tender until the final time given, at which point they may begin to get mushy and overcooked. In essence, they will be "done", and very tasty, for that entire span between the minimum and maximum times.

Another Way to Look at It

Another way to think about how this works is to use the following analogy. Pretend you were helping a new cook grill a steak. If they told you they wanted to cook it medium rare and asked you to tell them how to tell when it was "done", what would you say?

Most people would reply with, "when the temperature is between 131°F to 139°F" (55°C to 59.4°C).

If the friend isn't a cook they would ask "Yeah, but when is it actually done?"

The answer at this point really comes down to personal preference since to some people medium rare is perfect at 131°F (55°C) and others prefer a little more well done 135°F (57.2°C), but a medium rare steak is "done" anywhere in that range.

Other Critical Variables

One other complicating factor is that there are many variables that go into determining how fast a piece of meat tenderizes and/or becomes tender. The most obvious variable is that some cuts of meat are tougher than others. For example, a top round roast needs to be tenderized a lot longer than a ribeye. Most people realize this and that's why almost all sous vide charts break the food down by "cut".

Another less obvious, but almost as important, factor is where the meat came from. How the cow was raised greatly impacts how fast the meat tenderizes. I've found that grass-fed meat from my local farmer needs just half the time to become tender compared to supermarket meat (this is also true when roasting or braising them). I've also talked to a reader in Mexico who eats local grass-fed beef that needs slightly longer times than normal because the cows work more.

There are then the variables in the actual cow itself. Whether the meat is a prime, choice, or other grade makes a difference in tenderizing time. As does the marbling, how old the meat is, and several other factors.

So taking all of this together it can be hard to accurately determine a range of "doneness" that will work for all cuts of meat all the time. But I have done my best to come up with a detailed range of times that the "average" piece of meat will be done in. The only way to really learn is to experiment with the types of meat in your area and see how they react. And luckily for us, sous vide allows us to have

a wide range that food is done in, helping to prevent overcooking.

In Conclusion

So while there might be one magical moment in the cooking process where a certain piece of meat is the most ideal tenderness, in practice there is a wide time range in the cooking process where the meat will be "done". As long as you take it out sometime in that range it should turn out great.

As you get more experience with your local meats, and determine your personal preferences, you can start to tweak your cook times to suit them more exactly. But as you are learning just remember that the food will be "done" anywhere in that range, and don't sweat the details!

RECIPE CONSIDERATIONS

Read the Recipe FIRST

This might sound like a no-brainer but with sous vide and cook times that can stretch into multiple days it is very important to read the whole recipe before starting. Many recipes also require marinades or other initial steps and often times you need to start working on the finishing portion of the recipe while the meat is still cooking. Just read through the recipe first, make sure you understand it, and then you won't run into any surprises down the road.

Searing Isn't Specific

In almost every recipe I have a step that recommends "quickly sear it until the meat is just browned". Any searing method you prefer will work fine unless otherwise specified. So use whatever method you find to work best and is easiest for you.

CONVERTING EXISTING RECIPES

Even though I provide more than 85 recipes in this book I know I can't cover it all. One of the great things about sous vide is that it is easy to convert existing recipes into sous vide recipes with just a few tweaks. This means you can quickly convert the recipes from your favorite cookbooks into sous vide meals. There are three main steps to accomplish this.

Determine the Time and Temperature to Use

First look at the type of meat in the recipe and look up the time and temperature needed to cook it in either a recipe for that cut or in the Time and Temperature Charts section.

Isolate Seasonings

The next step in converting the recipe is to isolate the seasonings. Many foods are seasoned ahead of time with a rub or glaze and then cooked. While others have a sauce or crust added during or after the cooking process.

First look at the recipe you are converting and see what these seasonings are. Once you find the seasonings you need to determine whether they should be added before or after the sous vide process.

Season Before

Many recipes will call for spice rubs, marinades, or other similar seasonings. Throughout the marinating and cooking processes these flavors will melt into the meat and flavor it, and at the end of the cooking period they won't be distinct flavors.

These seasonings are the type you want to add before the sous vide process. You can add the spice rubs to the meat before bagging it or place fresh herbs like rosemary and thyme directly into the bags. In general it's best to substitute powdered garlic, onion, and ginger for their fresh counterparts, otherwise they can impart an off flavor.

Season After

Often times a recipe, especially steaks and chops, will have some sort of crust on it. While these crusts flavor the meat they don't break down during the cooking process like many rubs or marinades do. This means when you eat the meat you still get the distinct flavor and texture of the crust. The same goes for sauces and glazes.

These are the types of seasonings to add after the meat is cooked sous vide. If you add a crust beforehand the moist sous vide process will quickly dissolve it. To get around this, once you take the meat out of the sous vide bag you can dry it and then add the crust. Once you sear it the crust will be very similar to a traditional one.

Choose Your Finishing Method

One of the key things in most sous vide dishes is the finishing method used. The different methods add their flavors and textures to the meat. Depending on what the dish is and what you are trying to accomplish you will want to choose the method that most closely matches the recipe you are converting.

Putting it All Together

Now that you know all the steps it is very easy to take a recipe you love and convert it to a sous vide recipe.

Just determine the type of meat being cooked and the time and temperature needed to cook it. Next isolate the seasonings and see if they need to be added before or after the sous vide cooking. Finally, choose your finishing method, usually pan frying or grilling but it can also be roasting or smoking.

Season your food before if it is needed. Place it in the water bath for the indicated time at the indicated temperature. Remove it from the water bath and add any post-sous vide seasonings. Then finish it with the method of your choice.

BEEF, LAMB, AND OTHER RED MEAT

In this chapter I showcase the various cuts of beef, lamb, and other red meats. I cover how to properly cook them for the best results, as well as recommendations for other common times and temperatures. The toppings and sides in each recipe aren't exclusive to the cuts they are paired with so if you want to use a certain cut of meat with different sides it should work out great.

WHAT IS RED MEAT?

There are many different types of red meat and the ones I'm most familiar with are beef, lamb, and veal. The recipes reflect this bias but most red meat behaves the same way. Because of this you can find a comparable cut of beef or lamb and tweak the recipes to handle most other types of red meat.

If you have a type of meat that is usually grilled to a medium-rare temperature, you can follow recipes for a cut of beef that is usually grilled medium rare. The same works for meat that is usually braised, you can find a beef cut that is braised and follow the recipes for them. I've seen this process work well for grilled deer tenderloin, pulled moose shoulder, kangaroo steaks, bison burgers, elk steaks, and meat from other exotic animals.

One concern is pathogens that might be present in wild game. If you are eating wild game, cooked traditionally or with sous vide, you should make yourself aware of the pathogens and what temperatures are needed to kill them as it may differ from beef.

TEMPERATURES TO USE

There are two main ways to cook beef and other red meats. The first is to a steak-like texture and the second is a more pull-apart braise-like texture. The texture you are aiming for will determine the temperature you will use.

Steak-Like Texture

I generally like my steaks cooked medium-rare, so all the steak-like recipes will call for 131°F (55°C) but if you prefer a less rare steak you can increase the temperature, 141°F (60.6°C) is a standard temperature for medium, and anywhere in-between tastes great.

If you prefer rare steaks, you can drop the temperature to 120°F to 125°F (49°C to 52°C), but remember you are now in the danger zone and shouldn't cook the steak for more than 1 or 2 hours for safety reasons.

If you are cooking for people with different temperature preferences you have a few options. You can cook the steaks at different times or fool around with the temperatures when one is done but that can start to become complicated and just adds to the cooking time. The easiest and fastest method I've found is to cook both steaks at the lower temperature, then during the searing phase just sear the one you'd like more well done for a longer period of time. This will continue to cook the steak, raising the temperature to where you want it.

Traditional Braise-Like Texture

There are many different time and temperature combinations you can use for a traditional braise-style texture. They range from around 150°F (65.6°C) up to 185°F (85°C). I tend to prefer temperatures in between, around 161°F to 171°F (71.6°C to 77.2°C) for a firmer, but still flaky texture. I give recommendations for specific cuts in the recipes as well as the "Sous Vide Time and Temperature" chapter.

TIMES TO USE

When dealing with red meat there are two broad categories of cuts. Tender cuts and tough cuts. Tender cuts are traditionally grilled and just heated through while tough cuts are traditionally roasted or braised for a long period of time so the connective tissue has time to break down. The type of cut you are using will determine the length of time you will want to cook it for.

Tender Cuts

Tender cuts just need to be heated all the way to the middle of the piece of meat and not tenderized through any longer cooking. The sous vide process is very forgiving though so most cuts can be heated for a few hours after the middle has reached the target temperature without any negative effects.

Several recipes for tender cuts call for the meat to be cooked until "heated through". The amount of time needed to do this will depend on the temperature and the

thickness of the steak. There are specific times in the "Sous Vide Thickness Times" chapter but in general a piece of meat ½" (13mm) thick will be done in 20 minutes, a 1" (25mm) piece will take 50 minutes, a 1.5" (38mm) piece will take 1:45 and a 2" (50mm) piece will take 3 hours.

Tough Cuts

Tough cuts of meat need extended cooking times to break down the connective tissues. The amount of time depends on the cut of meat, the temperature you are cooking it at, and the desired texture of the finished meat. I provide recommendations for many different cuts both in this chapter and in the "Sous Vide Time and Temperature" chapter.

As I covered in the "Salting" section of the "Pre-Sous Vide Preparation" chapter, some people don't like to pre-salt meat that will be cooked for a longer time. I prefer a light salting and the recipes reflect this. Feel free to skip this step if you like it unsalted.

In-Between Cuts

Some cuts are tender enough to be just heated through but can benefit from extended cooking. Some common examples of this are sirloin and flank steak. Both cuts are traditionally grilled and then served, but cooking them for 5 to 10 hours will break down some of the connective tissue, making them even more tender than usual. Sometimes this isn't desired and I usually prefer my flank steaks to have some bite to them so I'll just cook them long enough to heat through but some people really love a super-tender flank steak.

In the recipes for these cuts I've provided suggested extended cooking times in addition to the "heated through" recommendation so you can determine which you prefer.

How to Finish

To finish red meat I will usually dry it really well, salt it and then sear it. To sear red meat I usually panfry or grill it, or use a torch. If I'm deep frying something else I'll often use the oil to deep fry the meat as well. Whatever method you use, you will want to sear it very quickly to prevent it from overcooking any more than is necessary.

FILET MIGNON WITH CREAMY BLUE CHEESE

Cook: 131°F (55°C) for 2 to 3 hours • Serves: 4

Filet mignon, or beef tenderloin, is a super tender, lean cut of beef that is often served as a fancy steak. Filet is so lean it lacks a lot of the flavor of fattier cuts so it is often complemented with a strongly flavored sauce. For this recipe I turn to a creamy blue cheese sauce and some sherried mushrooms to round out the flavors of the meal. I also cook it with Worcester sauce for added flavor.

Filet mignon is one of the best steaks to cook with sous vide because any overcooking starts to turn the filet chewy. It's the most tender cut of beef and it only needs to be heated through the sous vide process, not tenderized. You can either measure the thickness and cook it for the minimum time needed or just give it 2 to 3 hours. This recipe works just as well for a tenderloin roast as it does for steaks, just increase the time in step with the bigger width of the tenderloin.



Ingredients

For the Filet Mignon
4 portions of filet mignon,
about 1 to 1 ½ pounds (450g
to 700g)
Salt and pepper
1 tablespoon garlic powder
2 tablespoons Worcester sauce

For the Blue Cheese Sauce ½ cup blue cheese ¼ cup heavy cream 2 tablespoons lemon juice 3 tablespoons olive oil Salt and pepper

For the Sherried Mushrooms
1 pound mixed mushrooms,
cleaned and de-stemmed
2 tablespoons olive oil
1/4 onion, diced
4 garlic cloves, minced
2 tablespoons diced rosemary
leaves
1/4 cup dry sherry
2 tablespoons butter
2 tablespoons lemon juice

To Assemble Rosemary leaves, diced

For the Filet Mignon

At least 2 to 3 hours before serving Preheat a water bath to 131°F (55°C).

Salt and pepper the steak then sprinkle with the garlic powder. Place the steak in a sous vide bag, add the Worcester sauce, then seal. Cook the filet mignon until heated through, about an hour for a 1" (25mm) steak or 3 hours for a 2" (50mm) steak.

For the Blue Cheese Sauce

At least 10 minutes before serving Blend all of the ingredients together until smooth. The cheese sauce can be stored in the refrigerator for a day or two.

For the Sherried Mushrooms

30 minutes before servings

Clean and de-stem the mushrooms then cut into large pieces. Heat the oil over medium heat then add the onion and garlic. Cook until the onion is translucent, about 10 minutes. Add the mushrooms and rosemary then cook, stirring occasionally, until the mushrooms are tender. Add the sherry and cook until the sherry has evaporated. Stir in the butter until it melts. Remove from the heat and stir in the lemon juice.

To Assemble

Lightly salt the outside of the filet mignon then quickly sear it until the meat is just browned.

Place the filet mignon on a plate with the sherried mushrooms. Top the steak with the blue cheese sauce then sprinkle some rosemary leaves on top.

RIBEYE WITH HERB BUTTER AND BROCCOLI RAAB

Cook: 131°F (55°C) for 2 to 3 hours • Serves: 4

Ribeye is by far my favorite cut of meat. It's full of beefy flavor, has a nice amount of flavorful fat, and has a great texture. It's also probably the most contentious steak when it comes to sous vide. Some people swear by it while other people hate it, preferring to cook it through traditional methods. I have to say I fall into the latter camp, I love a ribeye cooked directly on a hot grill, but I have come to enjoy sous vide ribeye as well.

I think the key to a good sous vide ribeye is to use the sous vide to heat the meat through, then let it cool slightly before giving it a great sear. The sear is more important for a ribeye than for other cuts due to the high fat content. Letting the steak cool slightly allows you to sear it for a little bit longer, rendering more of the fat. I usually cook ribeye for 2 to 3 hours because you just need to heat it through. However, the timing is not nearly as critical as for filet mignon and it can go up to 5 to 6 hours with no problems.

Ingredients

For the Ribeye

- 4 portions of ribeye, 1 to 2 pounds (450g to 900g)
- 1 tablespoon thyme leaves
- 1 tablespoon chopped rosemary leaves

1 teaspoon garlic powder Salt and pepper

For the Herb Butter

- ½ stick butter, softened at room temperature
- 1 tablespoon finely chopped parsley
- 1 tablespoon finely chopped basil
- 1 tablespoon finely chopped tarragon
- 1/8 teaspoon freshly ground black pepper

For the Broccoli Raab

- 2 tablespoons olive oil
- 1 bunch broccoli raab, trimmed and cleaned
- 4 garlic cloves, diced
- ½ teaspoon Aleppo or other hot pepper flakes
- 2 tablespoons water

Salt and pepper

To Assemble

Smoked Maldon salt Nasturtium flowers

For the Ribeye

At least 2 to 3 hours before serving Preheat a water bath to 131°F (55°C).

Combine the spices in a bowl. Salt and pepper the ribeye, coat it with the spices then place it in a sous vide bag and seal. Cook the ribeye until heated through, about an hour for a 1" (25mm) steak or 3 hours for a 2" (50mm) steak.

For the Herb Butter

At least 20 minutes before serving

To make the butter place all of the ingredients in a bowl then mix and mash thoroughly using a fork. The butter will last in the refrigerator for several days or in the freezer for a month.

For the Broccoli Raab

30 minutes before serving Heat a pan over medium heat.

Add the oil to the pan and warm. Add the broccoli raab, garlic, and pepper flakes and cook for a few minutes. Add the water to the pan, cover the pan, lower the heat and cook until tender. Salt and pepper to taste.

To Assemble

Remove the cooked steak from the sous vide bag and pat dry. Let the steak cool for 10 minutes. Lightly salt the outside of the steak then quickly sear it until the meat is browned and the fat has rendered slightly.

Add the broccoli raab to a plate and top with the steak. Sprinkle with the smoked Maldon salt then add a dollop of the herb butter and some nasturtium flowers.

FLANK STEAK WITH ARGENTINIAN CHIMICHURRI

Cook: 131°F (55°C) for 2 to 12 hours • Serves: 4 to 8

Flank steak is one of my favorite cuts because it is full of beefy flavor and has a nice bite to it. Serving it with chimichurri, a flavorful garlic and parsley-based sauce, is very popular in Argentina and other South American countries. This version isn't a truly authentic Argentinian chimichurri but it comes pretty close.

Because I like the bite of flank steak I usually only cook it enough to heat it through, about 2 to 3 hours, but if you let it go for 10 to 12 hours it turns out really tender. You can make the chimichurri sauce several days ahead of time and store it in the refrigerator.



Ingredients

For the Flank Steak
2 pounds flank steak (900g)
1 teaspoons garlic powder
½ teaspoons ground cumin
½ teaspoons ancho chile powder
Salt and pepper

For the Chimichurri
1 bunch fresh parsley
1/8 cup fresh oregano
6 garlic cloves, coarsely chopped
3 tablespoons red wine vinegar
3 tablespoons lime juice
1 cup olive oil
1 teaspoon paprika
1/2 jalapeno, deseeded and
coarsely diced
Salt and pepper

To Assemble
Cucumber, sliced
Carrots, thinly sliced
Cherry tomatoes, quartered
Parsley leaves

For the Flank Steak

At least 2 to 12 hours before serving Preheat a water bath to 131°F (55°C).

Mix together the spices in a bowl. Salt and pepper the steak then coat with spices. Place the steak in a sous vide bag then seal. Cook the flank steak for 2 to 12 hours.

For the Chimichurri

At least 10 minutes before serving

Combine all the ingredients in a blender or food processor and process until combined well, leaving a few larger pieces of the ingredients in the chimichurri. Pour the chimichurri into a container and reserve until serving. It will last in the refrigerator for several days.

To Assemble

Remove the cooked steak from the sous vide bag and pat dry. Lightly salt the outside of the steak then quickly sear it until the meat is just browned. Cut across the grain into thin slices.

Make a small pile of the cucumber, carrots, and cherry tomatoes then place some slices of flank steak over it. Top with the chimichurri and some parsley then serve.

Modernist Notes

I will usually mix in 0.15% xanthan gum to help hold the chimichurri sauce together so it better coats the steak. Just add it in when you are blending the ingredients together.

PORK

There are two ways to cook pork, to a tender, pork chop-like consistency or to a traditional braise-like texture. The time and temperature you use will depend on your desired texture. Many people like to brine their pork before sous viding it since it helps add even more moisture and flavor to the meat.

Tender, Pork Chop-Like Texture

For a chewier texture similar to traditional pork chops, a lower temperature will be used. Typically pork is cooked anywhere between 136°F to 149°F (57.8°C to 65°C), which ranges from medium rare to medium well. My go-to temperature is 140°F (60°C) because it's a nice mix of tender and moist but most of the pink is now gone.

The time needed to cook the pork will depending on the specific cut and the temperature used. For tender cuts, they just need to be "heated through". The amount of time needed to do this will depend on the temperature and the thickness of the pork. There are specific times in the "Sous Vide Thickness Times" chapter but in general a piece of pork ½" (13mm) thick will be done in 20 minutes, a 1" (25mm) piece will take 50 minutes, a 1.5" (38mm) piece will take 1:45 and a 2" (50mm) piece will take 3 hours.

Tougher cuts will need to be cooked for longer periods of time, up to several days for a cut like pork shoulder. I give specific recommendations in the recipes as well as the "Sous Vide Time and Temperature" chapter.

Fall-Apart, Braise-Like Texture

For a more braise-like texture pork needs to be cooked at higher temperatures. These range from 145°F to 180°F (62.8°C to 82.2°C) and the pork is usually cooked for at least 12 hours and sometimes up to several days. I usually cook my pork somewhere in between, around 156°F to 165°F (68.8°C to 73.9°C) for about 18 to 24 hours. I give more recommendations for specific cuts in the recipes as well as the "Sous Vide Time and Temperature" chapter.

HONEY-CHIPOTLE GLAZED COUNTRY STYLE RIBS

Cook: 140°F (60°C) for 24 hours • Serves: 4 to 8

Country style ribs are very similar to pork shoulder, and are sometimes cut directly from it. They are a rich and fatty cut that holds up well to strong BBQ sauces. I like to serve them glazed in a simple honey-chipotle sauce served alongside corn slathered in a sweet honey butter.

Country style ribs are usually cooked for 8 to 24 hours, depending on how tender you want them, and the temperature ranges from 140°F to 180°F (60°C to 82.2°C). Some common time and temperature combinations are 24 hours at 140°F (60°C) for a tender, meaty rib; 12 hours at 176°F (80°C) results in fall-apart ribs; and 12 hours at 156°F (68.8°C) lands in between the two extremes.



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Ingredients

For the Country Style Ribs
2-3 pounds country style ribs
(900g to 1350g)
2 teaspoons ground coriander
2 teaspoons smoked paprika
1 teaspoon ground cumin
1 teaspoon mustard powder
1 teaspoon ancho chile powder
Salt and pepper

For the Honey-Chipotle Glaze
1 ½ cups water
2.4 chipotles in adobo sauce
½ cup honey
1 tablespoon molasses
1 tablespoon liquid smoke
1 tablespoon Worcester sauce
1 tablespoons paprika
1 teaspoon mustard powder
2 teaspoons ground coriander
1 teaspoon ground cumin

For the Honey Butter
1/2 stick butter, softened at room temperature
3 tablespoons honey
1 tablespoon finely chopped parsley
1/8 teaspoon freshly ground black pepper

To Assemble
Fresh parsley, chopped
Orange zest
Corn on the cob, cooked

For the Country Style Ribs

At least 24 hours before serving Preheat a water bath to 140°F (60°C).

Mix together the spices in a bowl. Salt and pepper the country style ribs and then coat them with the spices. Place the pork in a sous vide bag then seal. Cook the pork for 24 hours.

For the Honey-Chipotle Glaze

At least 20 minutes before serving

Blend all of the ingredients together then bring to a boil. Let simmer for 10 minutes while stirring occasionally. Remove from the heat

The honey-chipotle glaze can be stored in the refrigerator for about a week.

For the Honey Butter

At least 20 minutes before serving

To make the butter place all of the ingredients in a bowl and mix and mash thoroughly using a fork. The butter will last in the refrigerator for several days or in the freezer for a month.

To Assemble

Preheat a grill to high heat or the broiler in the oven.

Remove the ribs from the sous vide bag and pat dry. Brush the country style ribs with the honey-chipotle glaze and sear them on the first side for a minute. Brush the glaze on the side facing up and turn the ribs. Repeat several times until it is coated with the glaze, cooking about 30 to 60 seconds per turn. Remove from the heat, brush once more with the glaze, and place on a plate.

Add the corn to the plate, sprinkle with the parsley and orange zest then serve.

CUBAN PORK CHOPS WITH FRIJOLES NEGROS

Cook: 140°F (60°C) for 2 to 3 hours • Serves: 4 to 8

Pork chops are a staple around my house and I almost always cook them sous vide. Using sous vide allows me to cook them at a lower temperature than using traditional methods, resulting in a moist and tender chop. This sauce, a homemade Cuban-style mojo sauce, is one of my favorites. Traditionally it would use sour orange juice but a half lime juice and half orange juice mixture is a good approximation and much easier to find. I serve the pork with frijoles negros, a classic side of black beans over rice.

Pork chops are tender cuts and just have to be heated long enough to heat them through and pasteurize them, about 2 to 3 hours depending on the thickness. They can be cooked at many different temperatures, depending on what your preference is. The normal range is from 136°F to 149°F (57.7°C to 65°C) and ranges from medium rare to medium well. I usually cook mine at 140°F (60°C), it's still very tender but most of the pink is now gone.

Ingredients

For the Pork Chops
Salt and pepper
1-2 pounds pork chops (450g to 900g)
1 tablespoon garlic powder
1 tablespoon ground cumin
2 teaspoons dried oregano
2 teaspoons onion powder

For the Mojo Sauce
3 tablespoons olive oil
8 garlic cloves, minced
1/3 cup orange juice
1/3 cup lime juice
1 teaspoon ground cumin
1 tablespoon chopped oregano
Salt and pepper

For the Frijoles Negros
Olive oil
1 medium onion, diced
1 green pepper, diced
4 garlic cloves, minced
2 cups cooked black beans
1 tablespoon dried oregano
1 teaspoon ground cumin
Salt and pepper

To Assemble Cooked white rice Fresh oregano, chopped

Sous Vide Recipes: Pork 40

For the Pork Chops

At least 2 to 3 hours before serving Preheat a water bath to 140°F (60°C).

Mix together the spices in a bowl. Salt and pepper the pork and then coat it with the spices. Place the pork in a sous vide bag then seal. Cook the pork for 2 to 3 hours.

For the Mojo Sauce

At least 20 minutes before serving
To prepare the mojo sauce heat the olive
oil and garlic in a pan over medium-high
heat. Cook until the garlic begins to
soften, about 1 minute, then add the
orange juice, lime juice and cumin. Bring
to a simmer then stir in the oregano and
remove from the heat.

For the Frijoles Negros

At least 30 minutes before serving Heat the oil over medium to mediumhigh heat. Add the onion and green pepper and cook until soften. Add the garlic and cook for 1 minute. Add the beans, oregano, and cumin and cook for 10 minutes for the flavors to meld. Salt and pepper to taste. Keep warm until ready to serve.

To Assemble

Preheat a grill to high heat or the broiler in the oven.

Take the pork out of the bag and pat dry. Sear them on the grill until grill marks form on the first side, a couple of minutes. Brush the mojo on the side facing up and flip the chops. Repeat several times until they are coated with the mojo, cooking about 30 to 45 seconds per turn. Remove from the heat and place on a plate.

Place a spoonful of white rice on the plate. Top with the black beans. Sprinkle with oregano and serve with any excess mojo sauce on the side.

Modernist Notes

A whipping siphon can easily turn the mojo sauce into a froth for a fancier presentation. Make double the sauce you normally would and set half of it aside to glaze the pork with.

Take the other half of the mojo sauce and blend it very well, then strain it. Add 0.3% xanthan gum to the strained mojo sauce and blend to combine. Pour into a whipping siphon, seal and charge it. Dispense the mojo froth onto the pork when serving.

PULLED PORK WITH PINEAPPLE CHUTNEY

Cook: 156°F (68.8°C) for 18 to 24 hours • Serves: 12 to 20

Pulled pork is usually made using the pork butt, sometimes called the pork shoulder or Boston Butt, and is cooked over low heat, usually in a smoker, for several hours. There are lots of options when making a traditional-style pulled pork with sous vide, it's best to experiment and see which one you prefer. Here's some guidelines to help you out.

For times, the longer you cook it, the more tender the meat becomes and the more it breaks down. At higher temperatures you don't have to cook it as long because the meat breaks down faster. Most pork shoulders are cooked for 18 or more hours, but if the temperature is above 170°F(76.7) or so then you can get away with shorter times.

Smoked pulled pork is traditionally done at around 190°F to 200°F (87.8°C to 93.3°C). With sous vide you can easily cook at lower temperatures but I recommend over 155°F (68.3°C) for traditional pulled pork otherwise the fat doesn't break down much. The higher the temperature, the more fat will be rendered but the dryer the meat will be.

My favorite combination is probably 156°F (68.8°C) for around 18 to 24 hours, it's shreddable but not over-tender. Some other popular combinations are 165°F (73.9) for 18 to 24 hours or 176°F (80°C) for 12 hours.



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Ingredients

5 sprigs thyme

For the Pulled Pork
4 to 5 pounds pork shoulder
(1800g to 2250g)
3 teaspoons paprika
2 teaspoons ancho chile powder
2 teaspoons ground coriander
2 teaspoons ground cumin
½ teaspoon freshly ground black
pepper

For the Pineapple Chutney
1 pineapple, skinned and diced
2 serrano chiles, minced
2 tablespoons lime juice
1/4 cup olive oil
Salt and pepper
1/4 cup chopped cilantro

To Assemble
Cucumber, sliced
Carrots, thinly sliced
Cherry tomatoes, quartered
Parsley leaves

For the Pulled Pork

At least 18 to 24 hours before serving Preheat a water bath to 156°F (68.8°C).

If the pork shoulder is too large to fit into a bag, cut it into multiple pieces. Mix the spices together in a bowl then coat the pork with them. Place the pork in a sous vide bag with the thyme then seal. Cook the pork for 18 to 24 hours.

For the Pineapple Chutney

At least 75 minutes before serving

Combine a third of the pineapple and half the serrano chile with all the lime juice and olive oil. Blend until the pineapple is broken down and the mixture is smooth. Salt and pepper to taste. Place the remaining ingredients in a bowl and pour the blended pineapple over the top and mix well. The chutney is better if it sits for at least an hour and can last in the fridge for a few days.

To Assemble

Remove the pork from the sous vide bag and pat dry. Shred the pork with a fork and tongs then lightly salt it. Make a pile of the pulled pork and top with the pineapple chutney then serve.

Modernist Notes

When making the pineapple chutney I usually add 0.15% xanthan gum, about 0.4 grams, during the initial blending step. This helps make the sauce richer and bind together.

Sous Vide Recipes: Pork 44

SECTION THREE

REFERENCES

Sous Vide Time and Temperature



You can also get this time and temperature information on your mobile phone if you have an iPhone, iPad or an Android.

Just search for "Sous Vide" and look for the guide by "Primolicious".

One of the most interesting aspects of sous vide cooking is how much the time and temperature used can change the texture of the food. Many people experiment with different cooking times and temperatures to tweak dishes various ways.

The numbers below are merely beginning recommendations and are a good place to start. Feel free to increase or lower the temperature several degrees or play around with the cooking time as you see fit as long as you stay in the safe-zone.

BEEF - ROASTS AND TOUGH CUTS

Bottom Round Roast

Medium Rare 131°F for 2 to 3 Days (55.0°C) Medium 140°F for 2 to 3 Days (60.0°C) Well-Traditional 160°F for 1 to 2 Days (71.1°C)

Brisket

Medium Rare 131°F for 2 to 3 Days (55.0°C) Medium 140°F for 2 to 3 Days (60.0°C) Well-Traditional 160°F for 1 to 2 Days (71.1°C)

Cheek

Medium Rare 131°F for 2 to 3 Days (55.0°C) Medium 149°F for 2 to 3 Days (65.0°C) Well-Traditional 160°F for 1 to 2 Days (71.1°C)

Chuck Roast

Medium Rare 131°F for 36 to 60 Hours (55.0°C) Flaky and Tender 161°F for 1 to 2 Days (71.6°C) Well-Traditional 176°F for 12 to 24 Hours (80°C)

Pot Roast

Medium Rare 131°F for 2 to 3 Days (55.0°C) Medium 140°F for 2 to 3 Days (60.0°C) Well-Traditional 160°F for 1 to 2 Days (71.1°C)

Prime Rib Roast

Medium Rare 131°F for 5 to 10 Hours (55°C) Medium 140°F for 5 to 10 Hours (60°C)

Rib Eye Roast

Medium Rare 131°F for 5 to 10 Hours (55°C) Medium 140°F for 5 to 10 Hours (60°C)

Ribs

Medium Rare 131°F for 48 to 60 Hours (55.0°C) Flaky and Tender 141°F for 2 to 3 Days (60.5°C) Well-Traditional 156°F for 1 to 2 Days (68.8°C)

Shank

Medium Rare 131°F for 2 to 3 Days (55.0°C) Medium 140°F for 2 to 3 Days (60.0°C) Well-Traditional 160°F for 1 to 2 Days (71.1°C)

Short Ribs

Medium Rare 131°F for 2 to 3 Days (55.0°C) Flaky and Tender 150°F for 18 to 36 Hours (65.5°C) Well-Traditional 175°F for 12 to 24 Hours (79.4°C)

Sirloin Roast

Medium Rare 131°F for 5 to 10 Hours (55.0°C) Medium 140°F for 5 to 10 Hours (60.0°C)

Stew Meat

Medium Rare 131°F for 4 to 8 Hours (55.0°C) Medium 140°F for 4 to 8 Hours (60.0°C)

Sweetbreads

Medium 140°F for 30 to 45 Min (60°C) Pre-Roasting 152°F for 60 Min (66.7°C)

Tenderloin Roast

Medium Rare 131°F for 3 to 6 Hours (55.0°C) Medium 140°F for 3 to 6 Hours (60.0°C)

Tongue

Low and Slow 140°F for 48 Hours (60.0°C) High and Fast 158°F for 24 Hours (70.0°C)

Top Loin Strip Roast

Medium Rare 131°F for 4 to 8 Hours (55.0°C) Medium 140°F for 4 to 8 Hours (60.0°C)

Top Round

Roast

Medium Rare 131° F for 1 to 3 Days (55.0°C) Medium 140° F for 1 to 3 Days (60.0°C) Well-Traditional 160° F for 1 to 2 Days (71.1°C)

Tri-Tip Roast

Medium Rare 131°F for 5 to 10 Hours (55°C) Medium 140°F for 5 to 10 Hours (60°C)

BEEF - STEAK AND TENDER CUTS

| Blade Steak Medium Rare Medium | 131°F for 4 to 10 Hours (55.0°C) 140°F for 4 to 10 Hours (60.0°C) | Ribeye Steak Medium Rare Medium | 131°F for 2 to 6 Hours (55.0°C) 140°F for 2 to 6 Hours (60.0°C) |
|---|--|--|--|
| Bottom Round Medium Rare Medium | Steak 131°F for 1 to 3 Days (55.0°C) 140°F for 1 to 3 Days (60.0°C) | Sausage Medium Rare Medium | 131°F for 2 to 3 Hours (55.0°C) 140°F for 90 to 120 Min (60°C) |
| Chuck Steak Medium Rare Medium | 131°F for 36 to 60 Hours (55.0°C) 140°F for 36 to 60 Hours (60.0°C) | Shoulder Steal Medium Rare Medium | 131°F for 4 to 10 Hours (55.0°C) 140°F for 4 to 10 Hours (60.0°C) |
| Eye Round Ste Medium Rare Medium | ak 131°F for 1 to 2 Days (55.0°C) 140°F for 1 to 2 Days (60.0°C) | Sirloin Steak Medium Rare Medium | 131°F for 2 to 10 Hours (55.0°C) 140°F for 2 to 10 Hours (60.0°C) |
| Flank Steak Medium Rare Medium Rare and Tender Medium Medium and Tender Flat Iron Steak Medium Rare Medium | 131°F for 2 to 12 Hours (55.0°C) 131°F for 1 to 2 Days (55.0°C) 140°F for 2 to 12 Hours (60.0°C) 140°F for 1 to 2 Days (60.0°C) 131°F for 4 to 24 Hours (55.0°C) 140°F for 4 to 24 Hours (60.0°C) | Skirt Steak Medium Rare Medium Rare and Tender Medium T-Bone Steak Medium Rare Medium Tenderloin Ste Medium Rare | 131°F for 2 to 3 Hours (55.0°C) |
| Hamburger Medium Rare Medium Hanger Steak Medium Rare | 131°F for 2 to 4 Hours (55.0°C) 140°F for 2 to 4 Hours (60.0°C) 131°F for 2 to 3 Hours (55.0°C) | Medium Top Loin Strip Medium Rare Medium | 131°F for 2 to 3 Hours (55.0°C) 140°F for 2 to 3 Hours (60.0°C) |
| Medium Porterhouse St Medium Rare | | Top Round Ste Medium Rare Medium | 131°F for 1 to 2 Days (55.0°C) 140°F for 1 to 2 Days (60.0°C) |
| Medium Rare Medium Rare Medium Rare Medium | 131°F for 2 to 3 Hours (55.0°C) 140°F for 2 to 3 Hours (60.0°C) 131°F for 2 to 8 Hours (55.0°C) 140°F for 2 to 8 Hours (60.0°C) | Tri-Tip Steak Medium Rare Medium | 131°F for 2 to 24 Hours (55.0°C) 140°F for 2 to 24 Hours (60.0°C) |

FAHRENHEIT TO CELSIUS CONVERSION

This guide gives temperatures in both Fahrenheit and Celsius but to convert from Fahrenheit to Celsius take the temperature, then subtract 32 from it and multiply the result by 5/9:

(Fahrenheit - 32) * 5/9 = Celsius

I've listed out the temperatures from 37°C to 87°C which are the most commonly used range in sous vide.

| Celsius | Fahrenheit |
|---------|------------|
| 37 | 98.6 |
| 38 | 100.4 |
| 39 | 102.2 |
| 40 | 104.0 |
| 41 | 105.8 |
| 42 | 107.6 |
| 43 | 109.4 |
| 44 | 111.2 |
| 45 | 113.0 |
| 46 | 114.8 |
| 47 | 116.6 |
| 48 | 118.4 |
| 49 | 120.2 |
| 50 | 122.0 |
| 51 | 123.8 |
| 52 | 125.6 |
| 53 | 127.4 |
| 54 | 129.2 |
| 55 | 131.0 |
| 56 | 132.8 |
| 57 | 134.6 |
| 58 | 136.4 |
| 59 | 138.2 |
| 60 | 140.0 |
| 61 | 141.8 |
| 62 | 143.6 |
| 63 | 145.4 |

| Celsius | Fahrenheit |
|---------|------------|
| 64 | 147.2 |
| 65 | 149.0 |
| 66 | 150.8 |
| 67 | 152.6 |
| 68 | 154.4 |
| 69 | 156.2 |
| 70 | 158.0 |
| 71 | 159.8 |
| 72 | 161.6 |
| 73 | 163.4 |
| 74 | 165.2 |
| 75 | 167.0 |
| 76 | 168.8 |
| 77 | 170.6 |
| 78 | 172.4 |
| 79 | 174.2 |
| 80 | 176.0 |
| 81 | 177.8 |
| 82 | 179.6 |
| 83 | 181.4 |
| 84 | 183.2 |
| 85 | 185.0 |
| 86 | 186.8 |
| 87 | 188.6 |
| 88 | 190.4 |
| 89 | 192.2 |
| 90 | 194.0 |

References: Sous Vide Time and Temperature 50

Sous Vide Thickness Times



For more cooking by thickness information you can view the equipment section on my website where I have an iPhone thickness ruler and free printable thickness cards.

You can find them on my website here: MCMEasy.com/Ruler

A Few Notes on the Times

Times were extrapolated from the descriptions in Baldwin's Practical Guide to Sous Vide (http://bit.ly/hGOtjd) and Sous Vide for the Home Cook, as well as Nathan's tables on eGullet and a few other sources. (http://bit.ly/eVHjS3).

The times are also approximate since there are many factors that go into how quickly food is heated. The density of the food matters a lot, which is one reason beef heats differently than chicken. To a lesser degree where you get your beef from will affect the

cooking time, and whether the beef was factory raised, farm raised, or grass-fed. Because of this, I normally don't try to pull it out at the exact minute it is done unless I'm in a rush.

The times shown are also minimum times and food can be, and sometimes needs to be, left in for longer periods in order to fully tenderize the meat. If you are cooking food longer, remember that food should not be cooked at temperatures less than 131°F (55°C) for more than 4 hours.

BEEF, PORK, LAMB THICKNESS CHART

Heat from Refrigerator to Any Temperature

How long it will take to heat an entire piece of meat from 41°F / 5°C to the temperature of the water bath.

Reminder, this food might not be pasteurized at these times and food should not be cooked at temperatures less than 131°F / 55°C for more than 4 hours.

While there are slight differences in the heating time for different temperatures of water baths, the times usually vary less than 5 to 10% even going from a 111°F / 44°C bath to a 141°F / 60.6°C bath, which equates to a difference of 5 minutes every hour. I show the largest value in the chart, so if you are cooking it at a lower temperature you can knock a little of the time off.

Heat from Freezer to Any Temperature

How long it will take to heat an entire piece of meat from 0°F / -18°C to the temperature of the water bath.

Reminder, this food might not be pasteurized at these times and food should not be cooked at temperatures less than 131°F / 55°C for more than 4 hours.

While there are slight differences in the heating time for different temperatures of water baths, the times usually vary less than 5 to 10% even going from a 111°F / 44°C bath to a 141°F / 60.6°C bath, which equates to a difference of 5 minutes every hour. I show the largest value in the chart, so if you are cooking it at a lower temperature you can knock a little of the time off.

Pasteurize from Refrigerator to 131°F / 55°C

This is the amount of time it will take a piece of meat that is 41°F / 5°C to become pasteurized in a 131°F / 55°C water bath.

Pasteurize from Refrigerator to 141°F / 60.6°C

This is the amount of time it will take a piece of meat that is 41°F / 5°C to become pasteurized in a 141°F / 60.6°C water bath.

Heat from Refrigerator to Any Temperature

| 70mm | 6h 25m | | |
|--------------------------------------|-----------|-----------------|--------------------------------|
| 65mm | 5h 30m | Pasteurize from | n Refrigerator to 131°F / 55°C |
| 60mm | 4h 45m | 70mm | 5 hrs 15 mins |
| 55mm | 4h 0m 0s | 65mm | 4 hrs 45 mins |
| 50mm | 3h 15m | 60mm | 4 hrs 15 mins |
| 45mm | 2h 40m | 55mm | 3 hrs 50 mins |
| 40mm | 2h 10m | 50mm | 3 hrs 25 mins |
| 35mm | 1h 40m | 45mm | 3 hrs 00 mins |
| 30mm | 1h 15m 0s | 40mm | 2 hrs 40 mins |
| 25mm | 0h 50m | 35mm | 2 hrs 20 mins |
| 20mm | 0h 35m | 30mm | 2 hrs 00 mins |
| 15mm | 0h 20m | 25mm | 1 hrs 50 mins |
| 10mm | 0h 8m | 20mm | 1 hrs 40 mins |
| 5mm | 0h 2m 0s | 15mm | 1 hrs 30 mins |
| | | 10mm | 1 hrs 25 mins |
| Heat from Freezer to Any Temperature | | 5mm | 1 hrs 20 mins |

Heat from Freezer to Any Temperature

| 70mm | 7 hrs 40 mins | |
|------|---------------|-----------------|
| 65mm | 6 hrs 40 mins | Pasteurize fron |
| 60mm | 5 hrs 35 mins | 70mm |
| 55mm | 4 hrs 45 mins | 65mm |
| 50mm | 4 hrs 00 mins | 60mm |
| 45mm | 3 hrs 10 mins | 55mm |
| 40mm | 2 hrs 30 mins | 50mm |
| 35mm | 2 hrs 00 mins | 45mm |
| 30mm | 1 hrs 30 mins | 40mm |
| 25mm | 1 hrs 00 mins | 35mm |
| 20mm | 0 hrs 40 mins | 30mm |
| 15mm | 0 hrs 25 mins | 25mm |
| 10mm | 0 hrs 10 mins | 20mm |
| 5mm | 0 hrs 02 mins | 15mm |
| | | 10mm |
| | | F |

m Refrigerator to 141°F / 60.6°C

| 70mm | 3 hrs 50 mins |
|------|---------------|
| 65mm | 3 hrs 25 mins |
| 60mm | 3 hrs 00 mins |
| 55mm | 2 hrs 40 mins |
| 50mm | 2 hrs 20 mins |
| 45mm | 2 hrs 00 mins |
| 40mm | 1 hrs 40 mins |
| 35mm | 1 hrs 25 mins |
| 30mm | 1 hrs 10 mins |
| 25mm | 0 hrs 55 mins |
| 20mm | 0 hrs 45 mins |
| 15mm | 0 hrs 35 mins |
| 10mm | 0 hrs 25 mins |
| 5mm | 0 hrs 21 mins |
| | |

INGREDIENT TABLES



You can find out more information about modernist ingredients and techniques through my free detailed guides to modernist cooking.

You can find them: MCMEasy.com/GettingStarted

INGREDIENT TECHNIQUES

| Ingredient | Emulsions | Foams | Gels | Spherification | Thickening |
|-----------------------|-----------|-------|------|----------------|------------|
| Agar | | Х | Х | | |
| Carrageenan: Iota | | Х | Х | Х | Х |
| Carrageenan: Lambda | Х | Х | | | Х |
| Carrageenan: Kappa | | | Х | | |
| Gelatin | | Х | Х | | |
| Gellan | Х | Х | Х | | |
| Guar Gum | Х | | | | Х |
| Gum Arabic | Х | Х | | | Х |
| Konjac | Х | | Х | | Х |
| Lecithin | Х | Х | | | |
| Locust Bean Gum | | | Х | | Х |
| Maltodextrin | | | | | Х |
| Methylcellulose | Х | Х | Х | | |
| Mono and Diglycerides | Х | Х | | | Х |
| Pectin | Х | Х | Х | | |
| Pure Cote B790 | | | Х | | |
| Sodium Alginate | | | Х | Х | |
| Ultra-Sperse | Х | Х | | | Х |
| Ultra-Tex | Х | Х | | | Х |
| Versawhip | | Х | | | |
| Xanthan Gum | Х | Х | | | Х |

INGREDIENT TEMPERATURES

When you are trying to determine which ingredient to use, the hydration, setting, and melting temperatures can be very important.

| Ingredient | Dispersion | Hydration | Gel Sets | Gel Melts |
|--------------------------|-----------------------|-----------------------|------------------------------|------------------------------------|
| Agar | Any | 100°C / 212°F | 40-45°C / 104-113°F | 80°C / 176°F |
| Carrageenan: Iota | Cool | Above 70°C / 158°F | 40-70°C / 104-158°F | 5-10°C / 9-18°F above setting |
| Carrageenan: Kappa | Cool | Above 70°C / 158°F | 35-60°C / 95-140°F | 10-20°C / 18-36°F above setting |
| Gelatin | Above 50°C / 122°F | Cool | 30°C / 86°F | 30°C / 86°F - 40°C / 104°F |
| Lecithin | Any | Any | N/A | N/A |
| Maltodextrin | Room temperature | N/A | N/A | N/A |
| Methylcellulose | | | | |
| Methocel F50 | Any | Below 15°C / 59°F | Above 62-68°C / 143-154°F | Below 30°C / 86°F |
| Methocel A4C | Hot | Below 15°C / 59°F | Above 50-55°C / 122-131°F | Below 25°C / 77°F |
| Mono and Diglycerides | Above 60°C / 140°F | Any | N/A | N/A |
| Sodium Alginate | Any | Any | Any | Above 130°C / 266°F |
| Xanthan Gum | Any | Any | N/A | N/A |

SOUS VIDE AND MODERNIST RESOURCES



For an up to date look at current books, websites, and other modernist cooking resources you can visit the list I keep on my website.

You can find it at: MCMEasy.com/Resources

Sous vide and modernist cooking are very complex processes and there is much more to learn about them in addition to what has been covered in this book. There is more and more good information available about modernist cooking. Here are some resources to help you continue to learn more.

MODERNIST RESOURCES

My Other Books

All of my books are available from Amazon.com or on my website.

Sous Vide: Help for the Busy Cook

By Jason Logsdon

My book focusing on how to use sous vide around your busy schedule. Full of recipes, tips and tricks to make sous vide work for you.

Sous Vide Grilling

By Jason Logsdon

This book is focused on grilling and BBQ recipes. It includes 95 great recipes covering steaks, burgers, kebabs, pulled pork, and everything in between.

Modernist Cooking Made Easy: Getting Started

By Jason Logsdon

My introductory book to modernist cooking including detailed looks at many of the most popular techniques and ingredients.

Modernist Cooking Made Easy: Party Foods

By Jason Logsdon

Amaze and delight your friends with easy to make modernist dishes that will blow them away!

Modernist Cooking Made Easy: The Whipping Siphon

By Jason Logsdon

A detailed look at the whipping siphon. It covers the three main uses of the siphon: foaming, carbonating, and infusing.

Beginning Sous Vide: Low Temperature Recipes and Techniques for Getting Started at Home By Jason Logsdon

My main book covering sous vide. It deals a lot with the various equipment options and has over 100 recipes, some of which have been specially adapted for this book.

Recommended Books

Modernist Cuisine: The Art and Science of Cooking

By Nathan Myhrvold

This aims to be the bible of modernist cuisine. It's over 2,400 pages costs \$500 and was several years in the making. If you are serious about learning the newly developing modernist techniques then this might be worth the investment.

Modernist Cuisine at Home

By Nathan Myhrvold

A much more accessible version of Modernist Cuisine especially written for the home cook.

Alinea

By Grant Achatz

A beautify, picture filled book with amazing techniques and whimsical dishes.

Ideas In Food

By Aki Kamozawa and H. Alexander Talbot

Delve into the "why" of traditional and modernist cooking.

Texture - A hydrocolloid recipe collection

Compiled by Martin Lersch from Khymos.com, is a great compendium of recipes for many modernist ingredients.

On Food and Cooking

By Harold McGee

This is the ultimate guide to the scientific aspects of cooking. If you like to know why things happen in the kitchen, at every level, you will find this book fascinating.

Cooking for Geeks

By Jeff Potter

If you are interested in the geekier aspects of cooking then this book does a great job. It takes you through the basics of setting up your kitchen all the way up to kitchen hacks and sous vide cooking.

Under Pressure

By Thomas Keller

This book shows you the extent of what is possible through sous vide cooking. The recipes aren't easy, and they require a lot of work but they can provide great inspiration

for dishes of your own. If you are interested in expanding your concept of what can be accomplished through cooking then this is a must have.

Websites

Modernist Cooking Made Easy

http://www.modernistcookingmadeeasy.com/

My website is full of recipes, tips, and tricks for modernist cooking. I also have forums and other ways to talk with other passionate cooks.

Hydrocolloids Primer

http://www.cookingissues.com/primers/hydrocolloids-primer/

Dave Arnold and the Cooking Issues website help to clarify some of the uses of and reasons for modernist ingredients.

Apps

I also have apps for the iPhone and iPad available, as well as one for the Android. You can search in the app store for "Molecular Gastronomy" and "Sous Vide" and mine should be near the top, published by "Primolicious".

INGREDIENT AND TOOL SOURCES

Many of the modernist ingredients cannot be picked up at the local grocery store. I have had good luck on Amazon but here are some other good resources to find these ingredients.

Modernist Pantry

https://www.modernistpantry.com

Modernist Pantry has a good selection of ingredients and equipment. I tend to buy most of my ingredients through them.

Molecule-R

http://www.molecule-r.com/

Molecule-R has a good selection of packaged ingredients and tools. Their ingredients tend to be a little more expensive but if you are just getting started then their Cuisine R-Evolution kit can be a good way to get many of the ingredients and tools to get started.

PolyScience (Now Breville)

http://www.cuisinetechnology.com/

PolyScience carries many of the higher-end modernist cooking tools such as the antigriddle, chamber vacuum sealers, and rotary evaporators.

RECIPE INDEX



I'm always adding more recipes to my website so for more inspiration you can check out the latest dishes:

MCMEasy.com/Recipes

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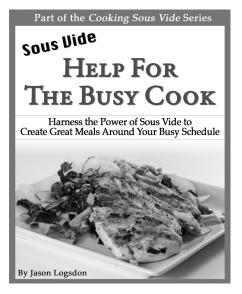
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DID YOU ENJOY THIS BOOK?

If you enjoyed this book check out my other books on sous vide and modernist cooking.



Sous Vide: Help for the Busy Cook

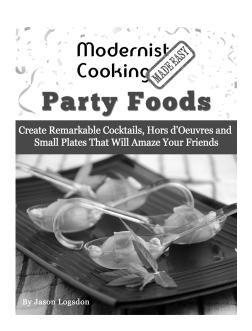
Do you take pride in cooking great food for yourself, your family, and friends but are you on the go all day long?

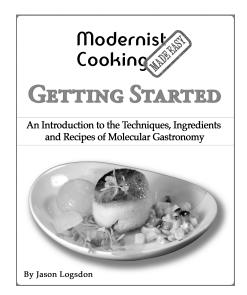
Sous vide has many benefits for people who are busy during the day. Once you understand how to take advantage of these benefits you can get great meals on the table while working around your schedule.

Modernist Cooking Made Easy: Party Foods

This book provides all the information you need to get started amazing your party guests with modernist cooking.

It is all presented in an easy to understand format along with more than 100 recipes that can be applied immediately to your next party.



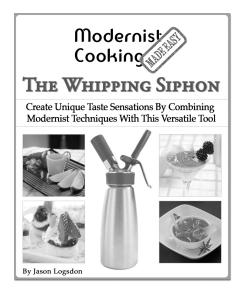


Modernist Cooking Made Easy: Getting Started

If you are looking for more information about the other modernist techniques then my first book is for you. It will give you the information you need to create gels, foams, emulsions, as well as teach you how to do spherification, thickening, and sous vide cooking. It also has more than 80 easy-to-follow recipes to get you on your way.

Modernist Cooking Made Easy: The Whipping Siphon

This book focuses on presenting the three main uses of the whipping siphon: Foaming, Infusing, and Carbonating. It delivers the information you need to understand how the techniques work and provides you with over 50 recipes to illustrate these techniques while allowing you to create great dishes using them.



All books are available from Amazon.com as a paperback and Kindle book, on iTunes, and on BN.com.

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ABOUT THE AUTHOR

Jason Logsdon is a passionate home cook, entrepreneur, and web developer. He helps cooks understand new modernist cooking techniques with easy-to-understand directions and recipes. He has a website and several books on sous vide and modernist cooking that are read by thousands of people every month including *Modernist Cooking Made Easy: Party Foods, Sous Vide:*



Help for the Busy Cook, Modernist Cooking Made Easy: Getting Started, Sous Vide Grilling, Modernist Cooking Made Easy: The Whipping Siphon, and Beginning Sous Vide. His website is www.ModernistCookingMadeEasy.com and Jason can be reached at jason@modernistcookingmadeeasy.com or through Twitter at @jasonlogsdon_sv.

References: Other Books 70