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Information to Ask/Consider when buying a Roaster

Here is something I put together a few years back. It may help you come up with questions to compare apples to apples. But for the record, there are **no cast iron drums**. The roaster may have cast iron used in the building of the roaster. Here is some of the parts that you would like to be cast iron, in my opinion. The face plate, the spokes of the drum, the rear of the drum housing, the exhaust port area, then the frame of the roaster. The skin of the drum would normally be sheet metal, mild steel, or stainless steel which allows control of the heat. If the drum was cast iron and you turn the heat up, or down, it would have too long of a heat up or cool down time. Now some smart young person is going to say, well then why do you like cast iron parts. Well, the beans are always moving from the back to the front of the roaster, so you have more heat contact in the skin and less in the face, or rear plate. This will help hold the heat in, hence the reason for cast iron. But again this is **only my opinion** of what I prefer in a roaster. But again there are **no cast iron drums**

Roasters

Why do you want to roast coffee?

1. Maybe you are paying too much for coffee?
2. You will produce fresher coffee?
3. You think that anyone can roast coffee and all you have to do is turn on the roaster, set the timer and you have coffee?
4. Maybe you have the passion to roast the coffee, want to buy the best coffee and you are willing to take the time to learn to roast.
5. Do they like coffee and like to drink coffee?

Picking a coffee roaster

What to look for in picking your roaster? If a consumer wants to buy a roaster.

First I would like to give you a few things to think about when you start looking at roasting and what it involves.

Here are some of the things you will be doing as a roaster.

1) Green coffee buying.
2) Keeping track of inventory of green

3) Designing your labels or pay to have them designed. And then you have to keep track of them in inventory.
4) Bags for the coffee and how many sizes, inventory them.
5) Cupping the roast and figuring out which coffees need to be roasted in a particular way.
6) How many different coffees are you going to handle?
7) Coffee Organic, or regular or both. Fair Trade coffee.
8) Cleaning roasters.
9) Grinding coffee for the customer.

You need to pick controls. What kind of controls do you want?

- Automatic / PLC
- Manual
- Semi-automatic
- Flow meters
- Bean probes
- Pressure gauges
- Exhaust probes
- Drum probes / environmental
- Variable drives
    1) Destoner
    2) Stack material
    3) Ducting material
    4) Cleaning equipment
    5) Scales
- Data logger

Cupping equipment

Sample roaster and learning how to sample roast, then how to production roast samples

Looking for the right roaster! We would recommend that you go to about 30-40 roasters and buy a pound of coffee from each of them. Take them home and try to see which one you like. After cupping and evaluating each one you should be able to eliminate half of them. Then you will go back to each one that made the first cut and buy another pound of coffee. You will do the same thing as before. Do this till you have it down to about five companies. By doing it this way you will be able to determine which roasting machine produced the best cup. There are some other things that will account for the taste, but we'll go into that in a minute.

So you have it down to five companies. You go to each one ask them what type of roaster they use, make and model. With this information we have a few roaster brands to look at. Know we can look at each one roaster manufacture and ask them if they give instructional classes. I would take the class and see if you find things that you like better one over another roasting machine. Also now would be a good time to start looking at who has won best of taste for the local coffee roasters. If you find who has won, then you make a list of those roasters and see what type there are using. Now we should have four lists of roasters.

1. All the types of roaster you can find.
2. All the types of roaster you like the taste of their coffee.

3. All the roasters that has won in best taste for the local or national competitions.
4. The roasters that have won in world class competitions such as Barista contest what kind of roaster their using.

You should start to see a few roasters making the entire list. I would then start talking to people that have those type roasters and ask them what the good points and bad points are.

Once we have this list of roasters. You can find the cost of these machines. We will say by now you should have it down to one or two brand roasters.

Not all coffee roasting machines are equal, some are easy to roast coffee, but I'm not saying it turns out great coffee.

So now we have to decide whether we are going to roast coffee and just be another local roaster or you want to roast great coffee.

Also just because the machine you wanted did not make the cut based on the others thing we recommend does mot mean you should not buy. It just means you may have a harder time with that roasting machine getting a great coffee, time after time.

Most people can roast coffee, but can they roast great coffee. And then do it time again and again.

Does the roasting machine have flexible controls so you can change as the crop changes. Can it stand up to some of the Artisan roasters out there. Are you willing to stand at the roaster (by the way it gets about 100-160 degrees) after you have roasted a few loads. Do you realize that you will need to roast about three to four times a week? To become really good at it. Yes, you can use automated controls, but the coffee will only be good coffee and maybe you will get a great coffee but not often. To get great coffee and do this time after time it takes practice, cupping every roast and keeping really good records for comparing want you do. Yes, there are data loggers that will help you keep these records easier, but you will need to constantly be monetizing and tweaking the roast because each day the coffee you have bought will change, it is a commodity that changes as time goes by. Also the weather changes thought the day so you will need to make change for this also. This is the reason when you visit a roaster that is doing a great job on roasting, you see them looking at the trier full of coffee, time the roast has been in the drum roasting, the bean temperature, the exhaust temperature, the color of the coffee, and the smell of the coffee as it progresses.

This is why we when we talk about roasting, we ask them if they can smell, taste and stay focused.

As a roaster you need not to be worried about what's going on around you and be one with the roaster.

After you have bought your roaster you will spend a life time perfecting your style of roast. You probably will be able to roast coffee with the help of automated controls, but I'm writing this article for the one that wants to be the best of the best. When you get started you will roast a lot of coffee that's just that, coffee. After a lot of practice you can become a great roaster, but this is going to be a lot of work.

Are you going to buy new or used or rebuilt or refurbished?

- New = Normal to get a warranty.
- Used = Has been roasted on and used to roast coffee either as a demo or in a business. AS IS
- Refurbished = someone has bought and just cleaned it up and fixed just enough to run and roast coffee. AS IS
- Rebuilt = This is when the roaster is taken apart and clean to bare bones and then completely repair bought back to factory spec. and if the person or company doing the work is good you will get a warranty.

Roasters are not built all for the same reason. Some are designed for the beginners and some are for the experienced roaster. Some are designed for the budget minded buyer and are beginner type roasters. Some are better at roasting a fast roast or dark roast. Some do a great job on roasting very fast and light to medium like the air roasters. Some of the roasters are built to be run by a computer program or profiler. Some are designed for fuel savings like the infrared units. Some say there are smokeless roasters. Or we have some that recycle the exhaust. Some are continuous roasters, the latter two are more for the production roasters. Some roasters are easily cleaned others are not.

Why there is large price different on roasters.

1. The type and amount of material used in manufacture.
2. The engineering that goes into them.
3. Type of controls you get.
4. Warranty you get.
5. After sale support help with regards to machine operation, roasting problems, and installation help.

How much is this going to cost?. The machine that is going to produce great coffee and have a lot of variables is going to cost a bunch. Plus, then you have to have it installed correctly and meet local jurisdiction codes, this is not cheap either. If it requires an exhaust stack this very expensive, normally running in the neighborhood of $100 per foot and up. The learning and all the coffee you mess up, while necessary, will be a write-off. You have to buy really high quality beans, which is going to cost a lot. If you are short cash and don't have access to good financing, maybe roasting is not for you and you should look at seeking out a roaster that is doing a great job with their coffee and buy it from them.

The companies that are doing a great job on their coffee will be very good at roasting and making sure you get the best out of their coffee.

People/companies involved that you will need to work with.

1. Roaster mfg.
2. Air pollution control Mfg.
3. Stack Mfg
4. Green brokers
5. Landlords
6. City inspectors
7. Food inspectors
8. Organic inspectors

The last thing I have to say is no matter which machine you pick, American made, European made, German made, Spanish made, or Third world made, any machine can be made to roast a great cup of coffee. **That takes a skilled Craftsman's Roaster, lots of money, a good understanding of what you want your coffee to taste like, and a very good mechanic that understands heat transfers, air flow and how that relates to roasting.**

Some of the Roasters are just built for more flexibility like ours, as to the different ways of roasting and style of roasting you want to do.

Do remember, when you call someone that builds, rebuilds, refurbishes or supplies roaster, he or she is a salesman. So write down what he says the roaster can do and can't do. Go roast on two or three of his machines and talk to a lot of people about the roaster you have decided on. Find out what kinds of service do you get after you have bought the roaster and the warranty is gone. Is he still that willing to help? You can go the individual businesses and get advice, but remember the people that are giving advice on their roaster may have just started to roast, Or haven't roasted on anything else but their current roaster. Also they don't use their real name and you should question **WHY?** They come up with some funky name, that no one knows and then there are experts. So when you use that type advice understand they didn't use their real name for a reason.

Purchase equipment list/installation Questions to ask and/or consider.

So you decided to buy a roaster. Well here are a few questions that you should or might want to ask your supplier on the requirements of your new equipment.

1. What type of features does this equipment have.
2. You will need some kind of Electrical approval to have it installed. On small equipment it would be UL, on larger equipment it would be one of the following.
    - Equipment UL approved or recognized.
    - Equipment ETL approved or recognized.
    - Equipment MET approved or recognized.
3. If no approval available from them, then ask how can I get approval and do you pay for this or is it a cost that we pay.
4. Will you supply me with a customer list of the most recent sales and some that have had the roaster for longer than year?
5. Warranty, what is the length of the warranty and does it include labor or just parts. Does it include shipping for parts or is it fob factory? If labor is included, do you pay for transportation and expenses like rental car, meals and hotel or it also fob factory
6. Do we need any special electrical fittings or plumbing fixtures for your equipment?
7. Should we have any other special equipment installed like floor drains, hose bibs, fire extinguisher, and receptacles within so many feet for cleaning equipment?
8. Do we need any special foundation for your equipment? Examples would be fireproofing, waterproofing, or earthquake proof.

9. If Gas fired, what gas pressure do I need at the machine and will that be enough for future equipment, or room to add a larger machine in the future. NOTE: Make sure you contact your GAS COMPANY to verify that you can get adequate pressure supply to your SITE.
10. Do you include the main gas regulator and shut off valves and if so are they for low (inches water column gas), medium (2 - 5 PSI), or high-pressure gas (5 PSI and up)?
11. Will I need any pollution control Equipment?
    - If so do you recommend a supplier for the Pollution Control Equipment and type? What kinds of equipment has your customers installed. What have they found as drawbacks on the pollution equipment they installed.
    - If we do not need Pollution Control Equipment, then why. Will I comply with the clean Air Act that's being enforced?
12. Is your air pollution equipment guarantee to pass my local EPA requirements? If it fails do you give my money back or fix it to pass and do you put that in writing.
13. Will you assist in filling out the EPA forms as part of the cost of the unit, if not how much will you charge or do we have to hire an engineer.
14. Do we need any other permits, like mechanical, plumbing, EPA and electrical?
15. Do you provide on-site training for operation of equipment as well as maintenance of the machine?
16. What is your maintenance intervals base on? Some examples of this are as follows.
    - Hour meters
    - Calendars days
    - Number of loads
17. What is your recommendation on how much time should we allocate, outside technical assistance, for maintenance on the equipment daily, weekly, or monthly?
18. Do we have a yearly inspection on the Equipment, if so do you do this, or do you recommend a qualified technician do this?
19. Do you supply a list of items to be inspected?
20. Do we need any special cleaning tools or equipment?
21. Do you do onsite training for roasting, as well as maintenance of the machine?
22. Do you teach any green coffee buying techniques?
23. Do you teach how to blend different coffees?
24. Do you teach the different degrees of roast?
25. Do you teach how to cup coffee and where to get the equipment?
26. Do you teach how to flavor coffee and where to get the equipment?
27. Do you inspect the Roaster, Pollution equipment, and other equipment associated with the roaster?
28. How much equipment will l need for processing my roasted coffee?
29. How much storage space will I need for green coffee as well as roasted coffee?
30. What kind of equipment does it take to move green coffee around until we roast it?