

## ROOT VEGETABLE FRACTIONATION MACHINE

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**Abstract.** *This article provides complete information about the tuber fractionation method and fractionating machine.*

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A root vegetable fractionating machine is a device designed to separate root vegetables into smaller fractions such as thin slices or strips of straw used for cooking. These machines work with rotating blades and discs to cut vegetables into uniform pieces. They are often used in commercial kitchens to quickly and efficiently prepare large quantities of vegetables for cooking or processing. Different models of fractionators are available to handle different types and sizes of root crops such as carrots, potatoes and turnips.

Root vegetable fractionating machines are commonly used in commercial food processing plants such as vegetable processing plants, frozen vegetable manufacturers and food service companies. They can also be found in the kitchens of large establishments such as hospitals or schools, or in high-end restaurants where precision cutting and garnishing is important. In addition, some home cooks may choose to purchase a smaller commercial fractionating machine for use in their own kitchen, especially if they cook large quantities of vegetables frequently.

Of course, here are more details specifically about fractionation machines root crops:

- Root vegetable fractionating machines are usually designed to process dense vegetables such as carrots, potatoes, beets and turnips.
- Root shredder machines use various types of blades and discs to produce slices of various shapes and sizes, such as corrugated slices, round slices and julienned strips.
- The chopping process of root vegetables helps to reduce the cooking time of vegetables and ensures uniform cutting, which can improve the presentation of the dish.
- Industrial root fractionating machines can process hundreds or thousands of pounds of vegetables per hour, while small commercial or household models can process several pounds per minute.
- Root fractionating machines vary in price and can vary from a few hundred to several thousand dollars, depending on machine characteristics such as size, materials and additional slicing options.
- Root vegetable fractionating machines can be used not only for cooking, but also in research and development to study the texture and structure of root vegetables.

Below is some additional information about fractionation machines root crops:

- These machines can be manual or automated. Manual machines require manual turning, while automated machines are powered by electricity.
- They usually come with replaceable blades or discs that can be changed for different cuts and sizes.

- They can have different sizes and shape of the loading tray for different root crops.

- Some models are equipped with safety features to prevent injury operator.

- Fractionation machines are often used in large-scale food processing plants such as frozen vegetables, canned food or dehydrated products.

- These machines can also be useful in restaurant kitchens or catering services where large quantities of vegetables need to be prepared quickly and efficiently.

You can read some more information about root fractionating machines:

- Some fractionating machines can be used for more than just root crops. They can also be used to make fruit, cheese and other types of food.

- Generally, fractionating machines work by slicing, grating or julienned vegetables with a round knife or disc that rotates at high speed. Vegetables are fed into the machine through the loading chute.

- Some fractionators come with adjustable speed and variable size chutes for better fraction size control.

- Fractionating machines can be purchased new or used, they prices vary from a few hundred to several thousand dollars depending on the size and characteristics of the machine.

- Maintenance of the machine is important to prolong its life and improve efficiency. Regular cleaning and sharpening of blades is essential to prevent damage to the machine and obtaining uniform cuts.

- Some common manufacturers of root fractionating machines include Hobart, KitchenAid and Robot Coupe.

Here are some general instructions for using a fractionating machine root crops:

1. Start by choosing the right knife or disc for the type of fraction you want.
2. If necessary, peel the vegetables and cut them into pieces that will fit comfortably in the input tray.

3. Turn on the machine and adjust the speed if necessary.

4. Place the vegetables on the loading tray by pushing them down using the plunger or pusher.

5. Let the machine process the vegetables until they are sliced or julienned as desired.

6. Turn off the machine and remove the cut vegetables from the exit side.

7. Clean the machine by removing vegetable residues and, if necessary, rinsing the blades or disks.

It is important to always read the instructions and safety instructions specific to the model you are using before operating the machine as

Specifications and instructions may vary depending on the manufacturer and models.

And we can add several common types of fractionating machines used specifically for root crops:

1. Continuous belt fractionating machines: These machines use a conveyor belt to continuously feed and process root crops. They are often used in large processing plants.

2. Batch fractionating machines: In this type of machine, root crops are loaded into a chamber and processed in batches. They come in a variety of sizes and are typically used in small to medium sized manufacturing enterprises.

3. Drum Type Fractionating Machines: These machines have a rotating drum that spreads the root crops across a series of blades or discs to produce the desired cuts. They are often used in the industrial food industry.

4. Manual fractionators: These are smaller machines that can be manually operated, often for home or small scale commercial use. They may require more time and effort to operate, but are often more affordable than larger electric machines.

5. Multifunctional fractionation machines: Some machines designed not only for cutting root crops, but also equipped with additional attachments or blades that can grate, shred and make various types of cuts, such as candied fruits or spiral cut vegetables.

It is important to choose the right type of machine based on your specific production needs, volume and budget.

Here is some more information about fractionation machines root crops:

1. Blade and disc options: These machines can be equipped with a variety of blades or discs for preparing various cuts such as julienne, matchsticks and french fries. Some machines also have the ability to adjust the thickness slices.

2. Capacity: The capacity of the fractionating machine may vary depending on the type and model, as well as the size of the processed pieces of root crops. Generally, larger commercial machines are capable of delivering higher throughput per hour than smaller manual machines.

3. Material: Fractionating machines can be made from a variety of materials, including plastic, stainless steel, and aluminum. When choosing a machine with the right material for your needs, consider the purpose and frequency of use.

4. Maintenance: Proper maintenance of these machines is essential to keep them running efficiently. This includes regular cleaning after each use, sharpening blades as needed, and periodically replacing worn or damaged parts.

5. Safety Precautions: Fractionation machines can be dangerous if used incorrectly, which is why many machines are equipped with safety features such as locking doors and pushers to prevent injury during use. Always use the machine in accordance with the manufacturer's instructions to ensure safe operation.

Here are some more details about root crop fractionating machines:

1. Cost: The cost of fractionating machines can vary greatly depending on the size, type and features of the machine. Small manual machines can be purchased for a few hundred dollars, while larger, more complex machines can cost tens of thousands of dollars.

2. Applications: Fractionation machines are commonly used in the food industry to process root vegetables such as potatoes, carrots, beets and sweet potatoes. They are also used in other industries such as like the chemical and pharmaceutical industries, to separate materials into smaller parts.

3. Product quality: The quality of the product obtained from a fractionating machine may vary depending on the type of machine and the quality of the processed root crops.

Some machines may produce high quality products that fit the size and shape, while machines are more low quality can produce less homogeneous products.

4. Energy Efficient: Some fractionators are designed to be energy efficient in order to reduce operating costs. Look for machines with energy efficient features such as variable speed motors and automatic shutdown features.

5. Power Source: Fractionating machines can be powered by electricity, gas or manual labor. When choosing a machine for your operation, consider the availability and cost of power supplies.

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