



### Unit 5 – Topic 3

### Rice Polishers –Types

#### What Is Rice Polishing?

Rice polishing is an indispensable process for producing high-quality refined rice in [rice mill plant](#). The polishing treatment can not only remove the floating bran on the surface of the rice grains, but also play the role of pre-gelatinization and gelatinization of the starch on the surface of the rice grains.

The degree of starch pregelatinization and gelatinization on the surface of rice grains depends entirely on the effect of water and heat or the addition of edible throwing aids during the rice polishing process. Polishers that can produce hydrothermal effects can achieve good polishing results. It is a very important equipment in [rice mill plants](#).

#### The Principle of Rice Polishing Machine

Treating the surface of the rice grains can make the rice grains crystal clear and transparent, and form a very thin gel film on the surface of the rice grains. This process is called rice polishing. The main function of the rice polishing machine is to remove the bran powder adhering to the surface of the white rice. After the surface of the rice is polished, there is a protective layer of wax, which can not only prevent the rice bran from sticking or falling off in the production, storage, transportation, and sales links, ensure the cleanness of the rice, but also improve the quality and commodity value of the finished rice, is conducive to the storage of rice, maintains the freshness of rice, and improves the edible quality of rice.

There are different types of rice polishers, each designed to achieve specific polishing effects. Here are common types of rice polishers:

1.	<b>Vertical Rice Polisher:</b>
	<ul style="list-style-type: none"><li>Vertical rice polishers are among the most widely used types. They consist of a vertical chamber where rice passes through multiple abrasive rollers. The rice is subjected to friction against these rollers, resulting in the removal of the bran layer.</li></ul>
2.	<b>Horizontal Rice Polisher:</b>
	<ul style="list-style-type: none"><li>In horizontal rice polishers, the rice flows horizontally through the polishing chamber. The process involves the interaction of rice with abrasive surfaces, leading to the removal of the bran layer. Horizontal polishers are known for producing high-quality, well-polished rice.</li></ul>
3.	<b>Water Jet Rice Polisher:</b>



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- Water jet rice polishers use a combination of water and friction to polish rice. The rice is washed with water while being subjected to abrasive action. This method is known for producing glossy and well-polished rice.
4. **Roller Rice Polisher:**
- Roller rice polishers use rollers with varying speeds to polish rice. The combination of pressure and friction removes the bran layer, resulting in polished rice. This type is often used for achieving a high degree of polishing.
5. **Cone Polisher:**
- Cone polishers use a cone-shaped chamber where rice is subjected to friction against the inner surface of the cone. This type is effective in producing well-polished rice with a smooth surface.
6. **Whitening Polisher:**
- Whitening polishers are designed to combine the whitening and polishing processes in a single machine. They use abrasive rollers to remove the bran layer while also contributing to the whitening of the rice.
7. **Emery Roller Rice Polisher:**
- Emery roller polishers utilize rollers made of emery, a type of hard rock. These rollers provide abrasive action, contributing to the polishing of rice. Emery roller polishers are known for their efficiency in producing well-polished rice.
8. **Silicon Carbide Polisher:**
- Some modern rice polishers use abrasive materials such as silicon carbide to achieve polishing. Silicon carbide polishers are known for their durability and effectiveness in removing bran layers.

The choice of a specific type of rice polisher depends on factors such as the desired degree of polishing, the type of rice being processed, and the scale of the rice milling operation. Advanced rice mills often incorporate multiple polishing steps using different types of polishers to achieve the desired quality and appearance of the final rice product.