

Review of the Festool Rotex RO 125 Sander

By Mathew Schenker

Anyone who has experience with Festool sanders knows that they are a pleasure to use — they have great power, comfortable grip, rugged components, low vibration, and incredible dust collection. Festool sanders turn a dusty, messy, unhealthy part of woodworking into a pleasant stage of each project. Festool produces a long line of sanders, each with different features, but their flagship model has been the Rotex RO 150. This sander boasts the ability to do both aggressive material removal as well as fine sanding by switching between two different sanding modes.

Festool has released a new sander, called the Rotex RO 125. As its name implies, the RO 125 is based on the same philosophy of the RO 150, and the two sanders have a lot in common. However, they have a very different appearance, and Festool has added some enhancements to the RO 125 which make it extremely comfortable to use, very versatile, and powerful.

Here are the top questions most people will want to know about the new Rotex RO 125:

- How is it similar, or different, from the RO 150?
- How powerful is it, and how does it handle?
- What kind of engineering went into this design?

In this review, I attempt to answer all of the above questions, to give you a clear idea of what the RO 125 sander is all about.

WHAT YOU GET WITH THE RO 125

Delivery of the RO 125 includes the sander, a Plug-It power cord, Systainer with an insert designed for the RO 125, a 125mm sanding disk, and an instruction manual. Below is a photo of the delivered package.



OVERVIEW OF ROTEX RO 125 FEATURES

Both the RO 150 and the RO 125 use a barrel-grip handle. But the RO 125 is more compact than the RO 150, in total length and height, and in the diameter of the barrel grip. During use, the smaller size of the RO 125 keeps you closer to the wood. The photo below shows how the RO 150 (top) and the RO 125 (bottom) compare in size.



Sanding Disks/Pads. As its name implies, the RO 125 uses 125mm sanding pads and disks, as compared with the 150mm pads and disks for the RO 150. Both the RO 150 and the RO 125 sanding pads and disks have eight holes around the perimeter, and one larger hole in the center. During operation, the center hole blows air *out* while the eight perimeter holes suck air *in*. This creates a stream of air that keeps dust flowing up into the eight perimeter holes and out to the dust collector. Festool developed this system for all of the company's round-disk sanders, and it is the main reason for their incredible dust collection. The photos below give a good sense of the difference between the sanding pads and disks on the two Rotex sanders. In each photo, the RO 125 is on the left, and the RO 150 is on the right.



Handles and Grips. The barrel handles and head of the RO 150 and RO 125 differ in a few ways. To start with, the RO 125 barrel handle is smaller in diameter. The barrel handle of the RO 125 also has a formed recess where your index finger fits snugly as you operate the sander. While using the RO 125, I found that keeping my finger in the recessed area really did enhance control during sanding. The head of the RO 125 is rubberized. Although I have never had a problem maintaining a hold on the RO 150, the barrel handle and rubberized head of the RO 125 do provide a better sense of control. The two photos below offer views of the RO 125 barrel handle (left) and rubberized head (right).



Power Switch. The power switch of the RO 125 has a different location and a different design than the RO 150. First, it is located at the front of the barrel handle, making it very easy to flip the sander on and off without having to change your hand position. Second, instead of toggling back and forth from the "on" to "off" position, the power switch on the RO 125 is pushed in to turn the sander on, then to cut power you push the switch again. The photos below show the typical hand positions for accessing the power switch of the RO 125 (left) and the RO 150 (right).



Speed Control. The speed control of the RO 125 is located near the rear of the barrel grip, but very close to your hand as you hold the sander. The speed control of the RO 150 is located at the tail end of the barrel grip, further away from your hand. Since you normally change speeds with the sander lifted from the work piece, I do not see any advantage or disadvantage to either design, and both are easily accessible. Both Rotex sanders (and all other Festool sanders) have six sanding speeds. The speed-control dial adjusts smoothly, and the sander responds quickly.

Switching Sanding Modes. One of the essential benefits of the Rotex sanders is the ability to switch between aggressive sanding ("Rotex") and fine sanding ("eccentric") in one machine. The motion of the sanding pad changes when you switch from one mode to the other. In the Rotex mode, both the RO 125 and the RO 150 remove a lot of material very fast (more on material removal later). But the RO 150 and the RO 125 employ very different methods for switching between sanding modes. The RO 150 uses a switch with a clip-like lever. Here are the steps for switching sanding modes with the RO 150: (1) lift the clip up from its starting position; (2) turn the clip either clockwise or counterclockwise depending on which mode you are switching into; (3) push the clip back down in the other position. The series of photos below shows the steps for changing sanding modes with the Rotex RO 150.



With the RO 125, Festool engineers have improved the mode-changing system: you just push a switch to the left or the right. It is extremely easy and fast. The sanding-mode switch is located just forward of the power switch, as shown in the photo below. Slide the sanding-mode switch to the right for aggressive sanding and to the left for fine sanding. Just remember, "Right = Rotex." For safety reasons, the sanding mode can only be changed when the machine is off. Just to make sure, the RO 125 has an automatic lock that prevents the user from changing modes while the sander is running.



Dust Chute. One of the absolute joys of using all Festool sanders is their superior dust collection. This is true of the Rotex sanders, as well as Festool's entire line of orbital, square, and detail sanders. For anyone who has not yet used a Festool sander, you may think I am exaggerating their dust-collection effectiveness. Trust me, there is no way to exaggerate just how wonderful Festool sanders are in keeping dust off the wood, out of the air, and out of your lungs. I have found that when hooked up to a dust extractor, I get at least 97% dust collection. Sometimes, after machining wood, you will have bits of debris or tiny pieces of wood on the sanding surface. Festool sanders suck up this debris right along with the dust. They are that strong!

Dust collection is extremely important for all woodworkers, whether you are a professional or a hobbyist. First, good dust collection is important to your health in the shop. It is also important to the health of everyone in your home, if your wood shop is connected to living areas. Effective dust collection also speeds up sanding jobs, because you do not have to stop between grits to clean dust off the surface of your work.

To be effective, Festool sanders must be connected to a dust extraction unit. Both the RO 150 and the RO 125 have dust chutes located in the rear of the unit, behind the handle. This is a natural position for the chute, since it keeps the hose out of the way and allows it to move with you as you work. All Festool sanders have 1-1/16" diameter dust chutes. The RO 150 dust chute is oval, which requires you to squeeze the dust-extractor hose to fit it. On the RO 125, the dust chute is round, allowing the dust-extractor hose to fit over it more quickly. The photo below shows the dust chutes of the RO 125 (left) and the RO 150 (right).



Once the dust-extractor hose is hooked up, there is no difference between these two sanders. Both dust chutes hold the hose snugly for as long as you work. This is also true of all other Festool sanders.

Plug-It Power Cord. A nice enhancement with the RO 125 is the addition of Festool's Plug-It power cord. This is not included with the RO 150. The Plug-It system allows the power cord to be connected to, or disconnected from, the machine with a push and a twist. The power plug and machine power input are shaped to fit together and lock in place. It is very secure. In the photos below, the Plug-It cord is on the left, and the on the right is the power connection in the back of the RO 125.



Several Festool machines use the Plug-It design. It allows you to remove the power cord from the machine when it is not in use, aiding in storage. Also, you can use a single power cord for several machines, because all Festool tools that use the Plug-It system are interchangeable. Also, if a Plug-It connector ever gets broken, it is easy to replace without having to rewire your tool.

AGGRESSIVE SANDING ("ROTEX" MODE)

As a test of the aggressive sanding mode ("Rotex"), I used the Rotex RO 150 and Rotex RO 125 to remove dried glue from 13 mixed-wood cutting boards made of maple, walnut, padauk, mahogany, ash, and cherry. The boards were all about 8"x15". I used the Rotex RO 150 on one side and the Rotex RO 125 on the other side. For both sanders, I used 50-grit sanding disks, with both sanders running at their highest speed setting (6). I used a timer to determine how long it took to remove all traces of dried glue and level the wood surface. I used Titebond III on all the boards, cured for at least 48 hours before the test.

Festool lists the sanding stroke of the RO 150 at 5mm (0.2"), and the sanding stroke of the RO 125 at 3.6mm (0.14"). Both sanders are rated at 500 watts. For my test, I noticed a difference in how quickly the sanders removed material, but I did not find it to be extremely significant. Calculating an average for all 13 cutting boards, the RO 150 took three minutes to remove every trace of glue and level one surface; the RO 125 averaged three and a half minutes. Put another way, the RO 150 averaged about six minutes per board; the RO 125 averaged seven minutes. I used very slight downward pressure during sanding, mainly utilizing just the weight of the sander. I have always been impressed with how quickly the Rotex RO 150 takes down material. The RO 125, though smaller and listed as less powerful, performed very close to the level of the RO 150 in the aggressive-sanding test.

The difference in material-removal speed may have a lot to do with the size of the sanding disk. With an extra 25mm of sanding diameter, the RO 150 will do a job faster than the RO 125. If you extrapolate from my test of 8"x15" boards to a larger surface, such as a 36"x36" kitchen table top, the difference in sanding time between the RO 125 and RO 150 may become more significant. However, there are other factors to consider when using the RO 125 that might make it an attractive option for larger surfaces, even if it takes a bit longer. More on that later.

The series of photos below show three cutting boards before and after being sanded and leveled with 50-grit sanding disks using the Rotex sanders. The photos to the right show surfaces that were sanded with the RO 125.



In aggressive-sanding mode, both the RO 125 and the RO 150 are as powerful as a belt sander, but with more control and far superior dust collection. It makes sense, in my opinion, to think of the Rotex sanders as a replacement for a belt sander.

HANDLING AND CONTROL

Although the RO 150 has an edge over the RO 125 in strength and speed of material removal in the aggressive-sanding mode, the design of the RO 125 makes it more comfortable to use in many ways. If you have smaller hands (mine are about average) you will find it easier to grip and hold the RO 125, since its barrel is narrower, and it has a molded recess for your finger. The rubberized head of the RO 125 slopes slightly downward at the front, angling your hand in a more ergonomic direction and bringing you closer to the work surface. The head on the RO 125 is also a bit smaller, making it easier to hold and control the sander. The photos below show the correct hand positions for the RO 150 (left) and RO 125 (right).



In the aggressive-sanding mode, the RO 125 and the RO 150 pull your hand in various directions. Both sanders require a firm grip and attention to the work. This tendency to wander is typical of powerful right-angle sanders. However, I found it easier to control the RO 125, resulting in less wandering and less fatigue during use. The RO 150 comes with a hand-grip, which screws into the side of the machine and aids in control. The RO 125 does not allow for a hand-grip, nor is it necessary with this sander. The weight difference of the two sanders is just under one pound, with the RO 150 weighing in at 5.1 pounds and the RO 125 at 4.2 pounds. This is not a major factor when sanding flat surfaces like cutting boards or table tops, but it would make a very big difference over time if you were sanding vertical surfaces or holding the sander up over your head for any length of time.

NOISE LEVEL AND VIBRATION

In the aggressive-sanding mode, the RO 125 and the RO 150 (and any other right-angle sander I have ever used) is rather noisy. There is a mix of a high-pitched motor whining along with a mechanical grinding sound. For safety sake, it is vital that you wear ear protection when running these sanders even for a short period of time. Comparing the two sanders, it is possible that the RO 125 is a little quieter, but when you are wearing ear protection it should not matter.

The vibration level of both the RO 125 and the RO 150 in aggressive-sanding mode is significant. You will likely want to take a short break after 15-20 minutes of continuous use. This is typical of all powerful right-angle sanders.

FINE SANDING ("ECCENTRIC" MODE)

Switching from aggressive-sanding mode to fine-sanding mode, both the RO 125 and the RO 150 become easier to control, and lose their tendency to wander. Also, vibration drops off dramatically. However, throughout all sanding steps, I found the RO 125 to have an edge in comfort and control when compared with the RO 150. In my test, I used the RO 125 and RO 150 to move through 50, 80, 100, 120, and 150 grit. I then switched to my Festool ES 150/5 orbital sander for a final finish from 220 to 800 grit.

I have used my ES 150/5 sander extensively, and I really like it for fine sanding. However, whenever I switch from the RO 125 to the ES 150/5, I immediately notice how much higher the ES stands, compared with the RO 125. I really like how close the RO 125 gets you to the wood, but I find the ES 150/5 to be a little smoother for fine-sanding. In the future, I plan to test the RO 125 more extensively as a fine sander.

The photo below illustrates my point about the height difference of the RO 125 (left) and ES 150/5 (right).



DUST CONTROL

All Festool sanders have extraordinary dust collection, and the new RO 125 is no exception. I think it is worthwhile to put extra emphasis on this particular aspect of the Festool sander line, as it provides multi-faceted benefits to woodworkers:

Healthier Workshop Environment. With nearly 100% dust collection on most surfaces, you are not breathing in fine particles. Even with a bright halogen light shining through the work area, I cannot detect any dust floating around while using a Festool sander. This is true even in fine sanding modes.

Faster Sanding Process. With Festool sanders, there is no dust left on the work surface. I have tested this using tack cloth. At all grits, the tack cloth is practically clean after wiping it on a surface that was just sanded with a Festool sander. With most sanders, you must first clean up all the dust from one grit before moving up to the next one. With Festool sanders, you can switch immediately from one grit to the next.

Longer-Lasting Sanding Disks. I used several random-orbit sanders before I bought my first Festool. While it is difficult to measure exactly how long a sanding disk lasts, I can say that it used to be normal for me to consume several of them in each project. Doing a 36"x36" table top, for example, I would go through two or even three sanding disks of each grit before the job was done. With Festool sanders, the same sanding disks are re-used for several projects. They just go on and on. The higher grits (220, 400, and 800) tend to wear faster, but they still last far above average. This longevity is due, in part, to the quality of the sanding disks, but it is also because of the excellent dust collection of Festool sanders, which keeps the sanding medium clean.

After extensive use of the RO 125, I am very pleased with its dust-collection capabilities, for all of the above reasons. It fits very nicely into the Festool line of sanders. (Note that the RO 125 does not come with a dust bag. For dust control, you need to connect it to a dust collector. This is not a deficit in my opinion, since dust bags are not very effective.)

AN INNOVATIVE NEW WAY TO CHANGE SANDING PADS

Festool engineers have added a feature to the RO 125 which makes it easier and faster to change sanding pads. This is necessary when you want to go from a medium to a soft sanding pad, or when you want to switch from a sanding pad to a polishing pad. With the Rotex RO 150, you must use a wrench to remove the sanding pad. This is not a difficult procedure, but it does require the use of an additional tool.

To change sanding pads with the RO 125, you press a small green button at the rear of the unit. With the button depressed, you turn the sanding pad counterclockwise to remove it. The new sanding pad is then placed on the machine and tightened clockwise. The green button is then released, and the sanding pad is secured. After testing this out, I found it to be very intuitive. The photos below illustrate the process.



CONCLUSIONS AND RECOMMENDATIONS

Festool now has two Rotex sanders. Both of them have terrific dust collection and tremendous power. Although both of the Rotex models may be used for fine sanding, when you reach the superfine grits (220 and above) it is probably better to use a dedicated fine-sander such as Festool's ETS 150/5, ETS 150/3, or the ES 125. This is a matter of opinion. I have met a few woodworkers who use their Rotex to do an admirable job of fine sanding.

It is important to make it clear that Festool is not marketing the RO 125 as a replacement for the RO 150. Instead, they are presenting each one as having its own strengths. With that said, most woodworkers are not going to purchase both the RO 150 and the RO 125. Therefore, woodworkers who want to take advantage of Festool's powerful dual-mode sander technology will likely be looking at both of these machines and then choosing one or the other.

Anyone comparing these two machines will find it very difficult to absolutely favor one based on engineering, quality, and power — they are both terrific machines. A better way to decide would be to assess the kind of work you do most. If you more often need to sand or polish large, flat, horizontal surfaces, you might prefer the RO 150, since it has a slight edge in material removal with its 25mm of extra sanding-disk diameter. You might prefer the RO 125 if you have to sand or polish smaller flat surfaces, or narrow, vertical, and overhead surfaces, where its improved grip, control, and lighter weight would be major advantages.

After my experience using the RO 125, I can say with confidence that if you want one sander that handles both smaller and larger surfaces (although at a slower pace) the RO 125 would accomplish everything you need it to do. With its improved mode-changing switch, lower center of gravity, and faster method for changing sanding pads, it could serve very well as your dedicated right-angle dual-mode sander.