

ORBITAL AUTOMATIC SCRUBBERS: SHOULD I CHANGE FROM DISK SCRUBBERS?

In working with a broad array of cleaning professionals, there seems to be a common question more and more are asking themselves: "Should I change from disk automatic scrubbers to orbital automatic scrubbers?"

For some, the answer is simple and for others, there needs to be more investigation into whether it is right for their facility, operators and overall facility operations.

This brief will attempt to provide some critical information regarding orbital scrubbing technology while also equipping you with some questions you should ask yourself when considering the change.

Let's dive in...

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ORBITAL SCRUBBING TECHNOLOGY 101

Let's start with the basics...what is the technology and how does it differ from the disk scrubbers I'm used to?

Orbital automatic scrubbers employ "micro-orbits" as their mechanical cleaning action on the floor. The total motion is approximately $\frac{1}{4}$ of an inch, but the speed (in RPM) is approximately 10–12 times that of a traditional disk scrubber. These micro-orbits can deliver significant agitation energy to the floor in a short time making it a complimentary method to an automatic floor scrubber. These units typically have a rectangular shape, but some also have round disk shapes. The latter work fine, but they lose some functionality that we'll cover later in the brief.

Disk automatic scrubbers come in single and dual-disk configurations and they use large revolutions as their mechanical action on the floor. The disk speed is typically between 180–300 RPM where the outer 2–4 inches of the disk move the fastest. The high speed at the outer edges deliver the agitation energy needed making it a complimentary method to an automatic scrubber as well.



Disk Scrub Head



Orbital Scrub Head

ORBITAL SCRUBBING TECHNOLOGY 201

Don't worry, we won't get too technical, but a bit deeper working knowledge of orbital technology will help you with your evaluation.

There are three levels of an orbital scrub deck when mounted to an automatic scrubber. These levels are separated by two levels of flexible isolators in order to deliver the orbital motion. These isolators are a critical player so stay tuned for more on those later.

Starting at the bottom, an orbital scrub deck has a pad driver. This is the level that holds the pad and drives the orbital energy into the floor. This statement is key as it provides guidance to the design and material that should be used here by the manufacturer.

The next level up, or the middle level, is the motor mount level. This must be made of sturdy construction and it also must be allowed to move some in order to dampen the vibration transfer back up into the body of the machine.

Moving upward through the second isolator level, you get to the third level which is the deck attachment level to the scrubber body. This seems like a simple level, but if done incorrectly, and it has been by many, it can be the cause of much pain in the ownership of an orbital automatic scrubber.

Getting back to the isolators. These are made of a hard rubber and essentially act as springs to allow semi-solid attachment – i.e. they allow some flex between the orbital levels. These isolators are considered wear items by most manufacturers so there can be periodic maintenance. Additionally, if not protected, they can be damaged in operation should the scrub deck be impacted (which can happen in almost every use!).

So now that we have the architecture of an orbital scrub deck, what generates the micro-orbit motion? The orbital motion is created by a high speed motor spinning to an off-center eccentric weight. It is off-center 1/8 of an inch which delivers a total orbital motion of 1/4 inch at around 2,200 RPM.

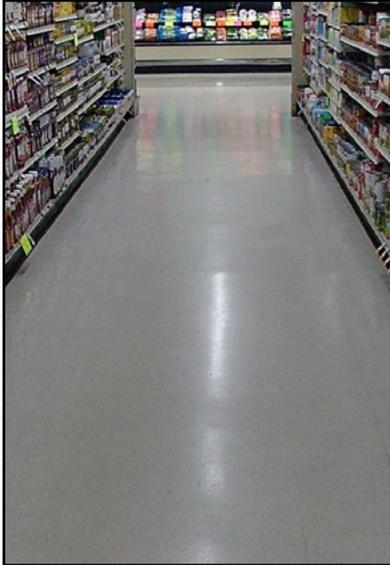
At this point, you are armed with enough technical background to evaluate whether orbital technology is right for your floor maintenance program and the key elements to look for should you decide to purchase an orbital scrubber.

Now it is time to ask the right questions to begin your evaluation...



Finish removed with a 20-inch orbital scrubber using a surface prep pad

IS IT RIGHT FOR MY FACILITY?



Grocery store aisle with worn finish

An orbital and disk scrubber both do a good job cleaning. And, with all the pads and specialized cleaning tools made for orbital machines, the technology works on multiple floor surfaces; even grouted tile.

The clear delineation in performance is how orbital technology can perform chemical-free finish removal. If you have clear-finish floors, orbital technology's dual function capability is a game changer on the finish maintenance side of your floor maintenance program.

With today's UV protected finishes, there is much less need to completely chemically strip and recoat the floor. Now, the main degradation in finish appearance comes from impregnated soils, chemical residue and scratches on the surface. In short, if you can remove the "bad layers" of finish, you can replace those only.

Orbital scrubbers use specialized "surface prep" pads and small amounts of water to do a one-pass, chemical-free finish removal process. Based on studies, it would be conservative to state that this process:

- Reduces labor by over 75% versus traditional chemical floor stripping
- Eliminates the cost and safety concerns of using toxic chemical strippers
- Removes the significant slip/fall risks associated with chemical stripper slurry



One pass with an orbital scrubber equipped with a surface prep pad

So, ask yourself these questions to evaluate whether orbital technology is right for your facility:

- Does my facility have a prevalent amount of clear finished floors?
- Are these floors in areas that get a lot of facility traffic?
- Are the expectations that these floors stay bright and shiny?
- Do I need to significantly reduce my labor and chemical costs due to budget constraints?

If the answer to the first question is "Yes", then it is likely that the remaining questions are also "Yes" making your facility a clear candidate for orbital scrubbers.

HOW DO I PICK THE RIGHT ORBITAL SCRUBBER?

Many of the same criteria that you would look for in a disk scrubber also apply to an orbital scrubber. Things like size, ease of use, durability and price are all key considerations for an orbital as well, however, this brief will focus on just the key orbital factors you must consider.

First, you'll want to consider the key performance specifications. All orbital scrubbers have speeds around 2,200–2,300 RPM so this isn't a clear delineating factor. The key performance specifications then are the motor horsepower and down pressure. By ensuring you have the largest horsepower combined with the highest down pressure, this will also ensure you've chosen the machine that will "cover you" in the most applications or challenges you are very likely to face in your facility.

Next, pay special attention to the construction. We spent time early in the brief covering this because it is such a critical factor. Here are the questions and considerations you should consider:

- Is the scrub deck protected by an impact housing? If yes, then proceed. If not, the orbital isolators will become a significant maintenance and cost of operation issue for you. We presume this isn't what you're looking for so no need to review the unit further.
- Is the pad drive plate made of aluminum? If yes, then proceed to next question. If not, this is neither durable enough or going to drive the energy into the floor that you need.
- Are the upper isolators made of a low profile, high durometer rubber? If yes, then proceed. If not, then this will allow significant energy to escape upward rather than forced to the floor; thus reducing performance and increasing machine vibration.
- Lastly, (and if you were able to review the orbital deck's construction and proceed through all the questions with "Yes" answers, then it likely meets this one!) does the manufacturer offer a scrub deck isolator warranty? If yes, then you've found someone that believes in their construction and is willing to back it. If not, then your isolators are considered "wear items" and you'll be forced into replacing them frequently...and it isn't cheap!



Classroom finish removed in less than 20 minutes!

THE BENEFITS CAN BE SUBSTANTIAL

The short answer if you have clear-finished floors is that orbital scrubbing's dual function daily cleaning and chemical-free finish removal capabilities will likely benefit your floor maintenance program. In fact, based on case studies, the orbital's chemical-free finish removal truly changes the game by reducing costs and greatly increasing safety.

In fact, at one grocery store case study, a 20-inch orbital scrubber (that met all of this brief's recommendations) was able to:

- Decrease labor costs by over 75%
 - One orbital floor technician covered the same square footage as three in only 22% of the time!
- Reduce supply costs by over 90%
 - Eliminated 15-gallons of stripper chemical
 - Required only a little water and surface preparation pads
- Deliver new levels of safety
 - Without hazardous stripper chemicals, neither the operators or store staff were at risk
 - Eliminates slurry slip/fall risks



Some orbitals can remove the dirty, damaged layers of finish in one pass without risk of slip/fall injuries!

Should you want to dive deeper into the savings provided using chemical-free finish removal, [click here](#) to download Pacific Floorcare's Orbital Finish Removal Savings calculator.

WHAT IS THE NEXT STEP?

The next step is to do your research. Put this new found, deeper understanding of orbital scrubbing technology to good use!

Remember these items:

- The right orbital scrubber can perform both daily cleaning and chemical-free finish removal.
- Pick the orbital that has the highest performance specs on motor horsepower and down pressure.
- Make sure the design and construction meet the requirements noted in this brief – it will save you a lot of grief!
- Look for the orbital scrubber that has a robust isolator warranty.
- The benefits of chemical-free finish removal will be significant.

Once you've done your homework, it should narrow the field of your evaluation significantly. Invite only those manufacturers to demonstrate their product for you to see it first-hand.

Finally, make your selection and enjoy your new found budget savings, increased safety and, of course, your bright, shiny floor!

Should you have any questions or if you would like more information, please feel free to:

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Email: info@pacificfloorcare.com

Visit: pacificfloorcare.com

Download our calculator: pacificfloorcare.com/orbital-scrubber-guide-download



Finish removal in a hospital hallway