
# arbortech random Contour Sander

## Is this the world's smallest random sander?

Arbortech has done it again. Inventing and refining yet another revolutionary tool to attach to your angle grinder.

Last year, Arbortech added the fantastic Mini-Turbo plane to its growing stable of carving and planing tools. This year they have released what is arguably the world's smallest random sander.

### IN THE BEGINNING

It is now 26 years since Kevin Inkster developed his "Woodcarver" blade. Kevin was inspired to transform his grinder into a carving machine when he was presented with the challenge of carving the seats of a couple of Windsor chairs. Woodworkers and sculptors were soon flocking to wood shows across Australia to see Kevin use his clever tool to work the hardest timbers on the planet. Arbortech was on a winner and has since grown from a small Perth-based company to one with offices in the USA as well as Europe.

***Flexibility.*** *The cleverly engineered fillet on the base pad allows the disc to flex and sand in the tightest of spaces.*

### THE ONGOING CHALLENGE

For the last 26 years Kevin Inkster and his team have been trying to solve another carving problem, namely; how to remove the scalloped marks left by the blade as it cuts.

This problem was partially solved when Arbortech produced the Turbo plane, however, this blade works best on flat or convex surfaces. The challenge to smooth out the ripples left by the Woodcarver, Power Chisel or the Mini-Turbo in concave situations remained.

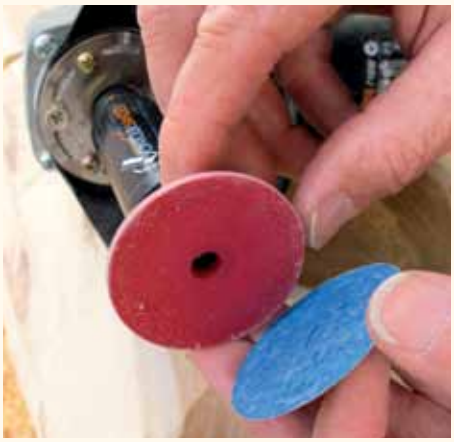
### THE CONTOUR SANDER

Just as the name implies, the contour sander has solved the problem of removing the ripples and ridges left behind when carving out a concave surface.

The image above shows the sander in action. It only took 30 seconds to sand out the ridges and ripples in the 100mm-square section shown, revealing the tight, nascent buds that make up the structure of a burl. Sanding out the whole bowl took a total of just 30 minutes, that included a complete cycle of three grit sizes (60, 80 and 120 grade). The 60-grade 50mm disc aggressively removed the ridges, smoothing out the shape to form just one contour for the interior of the burl bowl. The 80-grade disc quickly removed the 60-grit marks, while the 120-grit disc finished the job. No other tool on the market could have done such an excellent job so easily and so quickly. A revolution indeed!

### IS IT A REVOLUTION?

The question is "When is a revolution not a revolution?" Unlike other sanders on the market this random sander does not have the word "orbital" in its title. This revolutionary sanding system does



***Replacing Discs.*** *The high pressure glue on the back of the discs is formulated so the discs can be cycled through grades.*

***Tight Corners.*** *The flexible pad follows contours all the way into the tightest of crevices, perfect for spot sanding.*

***Eccentricity.*** *The pad bearing sits a little off-centre, creating an amazingly efficient random sanding action.*

not rotate. Just looking at the post you would think that the flexible rubber-backing pad would rotate. This is not the case. The novelty of the contour sander is that it vibrates instead of rotates.

Because the contour sander does not spin it will never cause a friction burn, plus it will wear consistently across the whole pad and not just on the edge.

## HOW IT WORKS

Just like a swan (a black one since we are talking about a Western Australian company) gliding effortlessly across a lake, there has been a lot of creative problem-solving poured into this elegant solution.

The first problem that had to be solved was to balance the tool so that it could be used all day without fatigue. You will notice that the 25mm post that supports the rubber-backing pad is very similar to the post that supports the Mini-Turbo. There are several differences that take a keen eye to appreciate. The first is that the Mini-Turbo has two slots ground on the stem to accommodate the spanner used to lock it onto an angle grinder. The contour sander has similar slots, however, they are not opposed to each other. They have been ground in order to balance the shaft, not to lock it into the angle grinder.

The second observation is that the contour sander stem has been bored out at an angle and not on-centre. The end that attaches to the angle grinder is bored on-centre, however, the stem has been strategically tilted in the machine shop so that the bore emerges 62mm later, off-centre at the other end. This creates a housing for the bearing that is off-centre and eccentric. You will see in the top right photo that the wall thickness varies from 2mm on the left through to approximately 4mm on the right. This change in wall thickness sets up a vibration in the stem, which is then telegraphed to the rubber pad via the bearing.

## RUBBER PAD

The arbor in the centre of the rubber pad screws into the bearing mount and delivers this vibration load to the abrasive so it can do its work. After trial and error Arbortech chose to use a high pressure adhesive that seems to be impervious to vibration, creating a seamless unit that just keeps on abrading no matter what the angle or the load. The pad itself has been designed for a long and robust life, formulated to be both flexible in tight spots as well as being able to accommodate the high pressure adhesive used on the back of the 50mm-dia abrasive discs. The discs come in three grades (60, 80 and 120 grit) and are easily applied.

The abrasive discs themselves show little wear after 30 minutes of use and are easily stored after the backing film is re-attached.

The lip of the rubber-backing pad is amazingly flexible and nests into the tightest crevice. We used it to sweep away the epoxy under the lip of a warped European beech bowl (middle image above). The solution was seamless.

This little wonder is sure to find a wide audience. It was released at the Malany Wood Expo in May and sold out on the first day! Being just 50mm in diameter it is perfect for spot sanding problem areas in both turned and carved projects.

I am sure that we are just seeing the beginnings of a whole new abrasive system. Watch this space to see how this unique system evolves. (See Sources page 73.) W

***Perfect Bedfellows.*** *The random contour sander smooths out the ripples left by the mini-turbo.*