

## bench**MASTERY**

●●● **STEP-BY-STEP DWX-50**

# Outperforming its footprint

After putting the DWX-50 dental milling machine through its paces at the lab, here is how Roland rocked Keating Dental Arts.

*By Shaun Keating, President and CEO,  
Keating Dental Arts, Irvine, Calif.*

**For years now**, my dental laboratory has relied on Roland 3D milling technology to produce the highest quality prosthetics for our dentist and laboratory clients around the globe. So I was ready to hear more when Roland told us the new DWX-50 was available.

It's based on the same proven 3D milling technology we have used here at Keating Dental Arts for years. In fact, both of Roland's new DWX dental mills, the 4-axis DXW-30 and 5-axis DXW-50, are designed

with features and upgrades specifically for the dental lab industry. We decided to go with the DWX-50 (**Fig. A**).

### MEASURING THE MILL

Designed to be a workhorse and streamline the production process, the DWX-50 features 5-axis simultaneous machining capabilities (**Fig. B**) and a 5-station automatic tool changer with a tool length sensor (**Fig. C**). A diagnostic notification system allows for unattended production



**DWX-50**

#### Features

- 5-axis dental milling machine capable of 5-axis simultaneous machining
- Five-station automatic tool changer with tool length sensor
- Mills wax, zirconia, and PMMA with precision
- Diagnostic notification system for machine status alerts
- Built-in dust collection tray for easy vacuum connection
- Open architecture design for easy integration

#### Roland DGA Corp.

rolanddga.com/dwx  
salesinfo@rolanddga.com

15363 Barranca Parkway  
Irvine, California 92618  
800-542-2307



**Fig. A** The DWX-50 mill provides 5-axis milling and automatic tool changing.



**Fig. B** The mill gets started on the job as soon as the first elements of the toolpath have been generated.



**Fig. C** A self-calibration feature provides efficiency.



**Fig. D** The DWX-50 features an easy-to-use vacuum system to capture milling waste.



**Fig. E** Zirconia copings with great margins produced on the DWX-50 and layered porcelain.



**Fig. F** Tools loaded in the automatic tool changer ready for the next job.



**Fig. G** The DWX-50 creates precision prosthetics in a variety of substrates.



**Fig. H** Roland stocks 0.8 mm, 1 mm and 2 mm diamond-coated and carbide tools for the DWX-50.



**Fig. I** For full contour restorations, a high level of occlusal detail is possible with the mill.

by alerting the operator via email should any system errors occur and when jobs are completed.

The DWX-50 is built on open technology that supports a wide range of software, tools and materials from several manufacturers. As a production machine, the DWX-50 can produce up to 100 units a day or more. The mill allows you to connect up to four machines to one computer, so you can readily add production capacity to your laboratory.

It also features an integrated air blower system and an advanced dust collection system, particularly important if you are milling zirconia. A built-in dust collection tray connects to any lab vacuum system, keeping the cutting area clean and free of debris (**Fig. D**).

### PUTTING IT TO USE

It took us less than two hours from the time of delivery to when the DWX-50 was milling test units. The machine itself has a very small footprint in the lab as well.

Right away, we saw the DWX-50 has a very intuitive user interface, which is especially important if a new operator needs to be trained. Our operators were proficient after the initial training session.

To drive the machine, we use SUM 3D CAM software ([sum3ddental.com](http://sum3ddental.com)). This is a very straight forward easy-to-use program. We especially like that the DWX-50 starts milling as soon as the first elements of the tool path are generated and continues while the remaining tool path

is being processed. This saves up to 30 minutes of down time per job...very efficient!

While SUM 3D CAM software works well for us, the DWX-50 supports virtually any dental CAD/CAM software solution on the market, including Dentmill, Hypermill, EdgeCAM, Work NC and Cambridge. While putting it through its paces, we found the DWX-50 works perfectly with both the 3Shape and Dental Wings scanners we have in our lab.

In evaluating the DWX-50's simultaneous 5-axis machining, we found the internal adaptation of the cases we milled were excellent. Marginal integrity was also excellent. In fact, we found it to be comparable with that of the much larger mills (**Fig. E**).

The consistency of the machining, especially at the margins, of all the Roland mills that we've used has reduced internal remakes significantly over a competitive mill system that we had used for some years. Throughput is also very efficient and similar to that of larger mills.

“The consistency of the machining, especially at the margins, is impressive. Throughput is also very efficient and similar to that of larger mills.”

— Shaun Keating, CDT

We really appreciate the DWX-50's automatic tool changer (Fig. F) and self calibration feature. This capability can save us up to 30 minutes over machines that require manual calibration... again, very efficient.

With the DWX-50, we have milled wax, zirconia and PMMA (Fig. G). Screw retained provisionals are a very useful application for our lab. We also like the fact that the mill cools the wax and PMMA stock with compressed air instead of coolant. All of these features add up to make a mill that is powerful, efficient and impressively accurate.

### SUPPORT NETWORK

The DWX-50 is backed by a world class manufacturer. Our service from Roland has been seamless. Any time we've contacted them, they've handled our needs immediately.

The DWX-50 supports a wide range of tool sizes from your vendor of choice. Roland stocks 0.8 mm, 1 mm and 2 mm tools for the machine (Fig. H). Occlusal anatomy on full contour restorations is very precise with the DWX-50 (Fig. I).

We highly recommend the DWX-50. A large, digital focused lab such as ours found it to be more than up to the tasks we had for it. How-

ever, priced at just \$29,995, it offers all the speed, precision and versatility of much larger, more expensive mills, and its compact size, ease of use and compatibility with the most widely used dental CAD/CAM software titles make it a great milling option for labs of any size. It's proven to be a great investment for our lab and can certainly be a nice addition to yours as well. **lab**

### ABOUT THE AUTHOR



Shaun Keating, CDT, is owner and CEO of Keating Dental Arts (KDA) laboratory in Irvine, Calif (**KeatingDentalArts.com**).

Shaun is a recognized leader in the field of Dental Technology. He is active in the National Association of Dental Laboratories, while lecturing and publishing nationally. Shaun can be contacted at **Shaun@KeatingDentalArts.com**.