

CNCs: routers and beyond

Today's offerings of CNC machinery include beam saws, sliding table saws, edgebanders, molders and more



The Weeke BHP 200 nested-based CNC machining center is built for both small and large manufacturing operations. It's designed for routing, boring, and grooving of flat components that have been nested into full sheets of material.

BY BRIAN CALDWELL / STAFF WRITER

The affordability of CNC machinery for the small and medium shop becomes more attractive with each passing year. CNC, which stands for computer-numerical-controlled, allows a shop to perform repetitive jobs with precision while cutting production time and employee workload, resulting in a higher profit margin.

Product lines of many CNC manufacturers are no longer exclusively dedicated to routers. That was quite evident at the AWFS Fair at the Las Vegas Convention Center in late July. CNC machinery such as beam saws, sliding table saws, edgebanders, molders and tenoners were all on display along with a host of CNC-related accessories.

For many shop owners the decision to invest in CNC equipment is a difficult one. The bottom line is whether a CNC purchase will make a shop more profitable or not. Pricing for a CNC router starts as low as \$10,000, and climbs to

as high as a customer is willing to pay. Many of the larger machines at AWFS didn't carry a price tag; they carried a hefty monthly rental fee.

The big guys

Stiles Machinery of Grand Rapids, Mich., is one of the largest CNC manufacturers in the world. The company's



The Techno LC Series 3024 router is a 30" x 24" tabletop model, which has the same or similar electronics as the company's larger CNC routers.

CNC product line includes Altendorf sliding tablesaws, Weeke routers and machining centers, Homag routing processing centers, edgebanders and tenoners. Its latest machine, the Weeke BHP 200 nested-based CNC machining center, is designed for routing, boring and grooving of flat components that have been nested into full sheets of material. The 12-hp machine debuted at AWFS at a price of \$110,000, which includes an eight-tool tool changer and other key features.

"The machine has an option for dual-zone operation so that we can be doing two different jobs in two different zones on the machine," said David McFarland, CNC router product manager for Stiles. "I can be running nesting in one zone and pod-based in the other zone."

"We developed the machine toward the custom cabinet shop and custom architectural millwork shop. Rather than just being a nested-based machine for kitchen box production, we gave it some flexibility to configure for some other applications, especially in the custom millwork area."

Some of the smaller CNC manufacturers feel the competition with the larger manufacturers has heated up.

"I think the change in industry you see in the time frame from eight years ago, it was big machines — the KOMOs, and things like that," said Neil McKenna, of Technical Communications, more familiarly known as Techno Inc. "But now with our LC machines, it has just taken off because someone who is in a woodshop with anywhere from three to 10 employees is now getting into CNC. Instead of dropping a \$150,000 to \$300,000 investment on a large machine, they can drop between \$11,000 and \$30,000 and get a machine that's going to make them a lot of money."

Finding your spot

Hendrick Manufacturing of Salem, Mass., unveiled its 20ZXG CNC router line at the Las Vegas show. The mid-priced routers include a six-tool spindle-mounted turret and servomotors for around \$72,000.

"You have to find your exact [market] position," said Richard Cohen, spokesman for Hendrick. "There are a lot of entry-level machines that are low cost that are maybe for sign makers ... and there are some very large machines. We also sell some large machines but there are some very large machines that you sort of have to position yourself with the

right products and know the market you are going into. We can't compete on the low end; there's ShopBot, there's a bunch of very small manufacturers that make frames out of bent piping and those machines are great. They have a use, they have a very specific pricepoint, but they don't have a control feature and durability of the machines that we are selling. We try to sell the quality."

"I think you usually get what you pay for," McFarland added. "There certainly is a difference in performance in efficiency on the machine, in longevity on the machine, depending on the environment that you are running it in. Even though they have the same functions — moving X, moving Y, moving Z [axes] — and doing those things simultaneously, the \$30,000 machine and the \$100,000 are not going to necessarily have the same quality, the same speed, or the same longevity, and we find that in our own product range."

"There really are two kinds of companies," said Ken Susnjara, president of Thermwood Corp. "There's one that makes a product and is product-centered, and then runs around with that product and tries to find everyone who might want to make it. There's a second kind of company that is industry-centered. They know and service a particular industry and create whatever kinds of products and services that that industry might need. I think [our company] and maybe some of the other CNC guys are making the switch from being a product-centered company to being an industry-centered company. Certainly, that is something that is occurring here."

Small and popular

ShopBot Tools of Durham, N.C., has made a splash in the CNC industry in the last few years with its low-priced CNC routers. In 2004 ShopBot's CNC alpha series of routers were introduced at IWF in Atlanta with a price range between \$10,000 and \$15,000. At AWFS in Las Vegas, ShopBot introduced its cabinet system, which includes KCDw software, ArtCAM Cabinetmaker software, and an air-drill attachment next to the cutterhead that enables the use of two cutters without buying an expensive automatic tool changer. The package runs \$23,520 without the software packages; \$35,520 with the software.

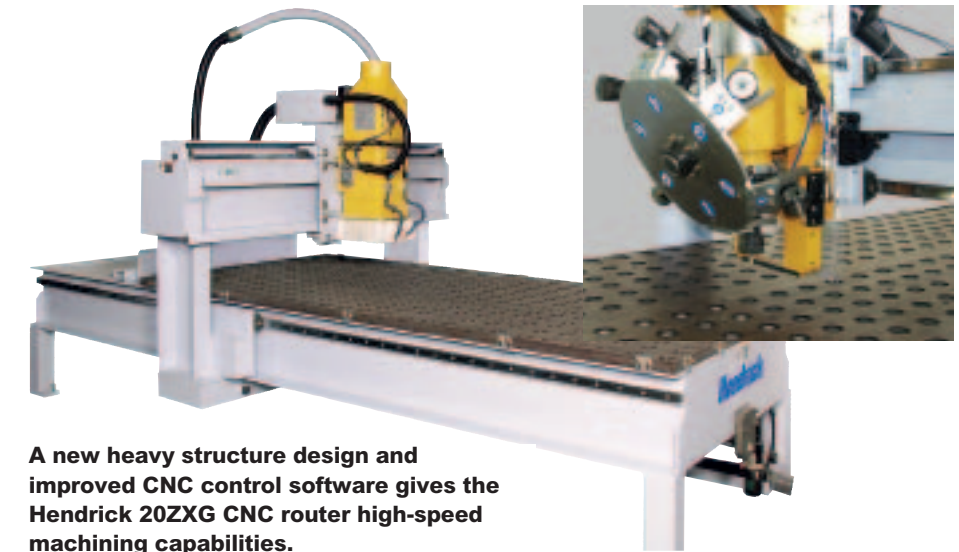
"Our focus all along has been trying to figure out a way to give small shops the capability of CNC while still making it affordable and practical for them from a technical point of view," said Ted Hall, CEO and president of ShopBot Tools. "Our focus on that hasn't really changed. At AWFS this year from a product point of view, we have really been working on this cabinet system and trying to bring this whole nested-base manufacturing idea into a package that small shops can afford. And for us, afford doesn't just mean the cost of the thing, which everybody seems to focus on, but having the thing be straightforward, simple and easy enough to use so the guys in the shop can live with it."

Techno Inc. offers a series of LC CNC

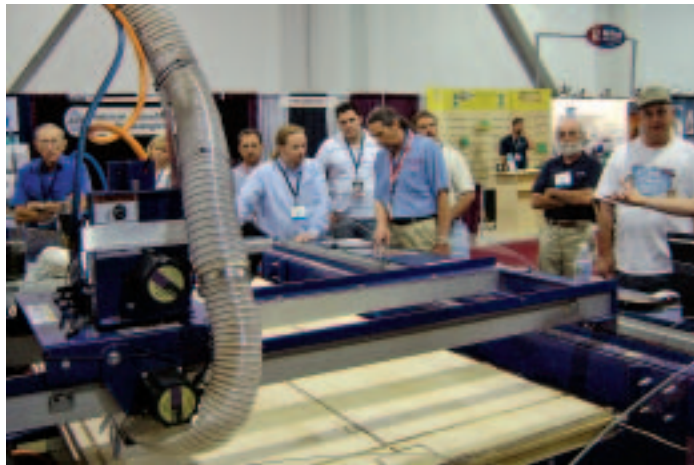
routers, which range from a 30" x 24" tabletop model to a full-size 78" x 120" machine. Once again, it's a matter of developing the right machine for the desired clientele.

"The big tables are more common. The LC 3420 [34" x 20"] is for any small shop where size is an issue," said McKenna. "You might not have enough real estate to even fit a big table and a fancy router in the door. But these carry the same or very similar electronics to the big tables so the power is the same, the cutting area is just a little bit smaller. It's good for sign makers, proto-

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A new heavy structure design and improved CNC control software gives the Hendrick 20ZXG CNC router high-speed machining capabilities.



ShopBot introduced its complete cabinet system at AWFS in Las Vegas in July. The system includes its PRTalpha96 CNC tool with table, closed-loop stepper motors, KCDw software and ArtCAM Cabinetmaker software; a kitchen finished with Thermwood's Furniture Finishes for Cabinets is an example of a CNC-based company that is expanding its product line.

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typing, all the regular applications except big sheets of plywood.

"These things have been selling really well. All the CNC accessories can be used pretty much on this table as well. ... Available upgrades include a tool changer, laser scanner and a fourth axis."

Branching out

Some CNC manufacturers have expanded their product lines beyond traditional CNC machinery, while other companies concentrate on CNC equipment and bringing the price tag down. Thermwood introduced its eCabinet systems program several years ago and its Furniture Finishes for Cabinets at AWFS in July. A furniture design program has a planned release in January 2006.

"It's a furniture look in the kitchen," Susnjara explained about the new finishing products. "There does seem to be a market developing where people want their cabinet to look more like fine furniture, and the biggest step you can do to make that happen is to put the same high-quality finish on those cabinets that furniture would have. We're working with Valspar and they've got about 85 percent of that production furniture market worldwide. So who better to be able to supply the same materials?"

"We've had to put together blending facilities here at Thermwood so that we can blend these things in smaller quantities. I believe this could be a pretty exciting program because it really does open up some new looks and the ability to take a job and make quite

PHOTOS: COURTESY OF SHOPBOT TOOLS; THERMWOOD INC. (FROM LEFT)

a bit more money off of it."

Companies such as Stiles continue to press forward in the development of new CNC machinery.

"I think the future is wide open," McFarland noted. "We certainly haven't reached the saturation point yet. What we are seeing is technology being driven down towards the price levels where the smaller shops can take advantage of it. We're talking about technology where most of our competitors didn't offer machines under \$200,000. Now we're seeing those same technologies in some form at the \$100,000 to \$125,000 range."

What's next

The current CNC market is continually changing with new designs, updated technology and prices slowly becoming more attractive. The approximately two-dozen successful CNC manufacturers have managed to find their individual pieces of the CNC pie, and for the moment there seems to be enough room for most of them. However, it's not a time for the manufacturers to relax — and it appears that they aren't.

"The business world is changing, the technology is changing," said Susnjara. "A lot of the advantages that you get from modern technology you don't get from a product, but you get from relationships ... you get from the smoothness and efficiency with which information can flow from one thing to another. And those kinds of advantages can't be gotten by just selling people a product. You've got to become a bit more of a diverse company in order to offer that."

PHOTO: COURTESY OF STILES MACHINERY



A Homag Group employee operates a Homag BAZ series stationary processing center that routs, grooves, bores, and applies and finishes edgework.

CNC SOURCE LIST

- Accu-Systems Inc., 4964 S. Redwood Road, Salt Lake City, UT 84123. Tel: 800-369-5746. www.accu-systems.com
- Ajax CNC, P.O. Box 9012, Milesburg, PA 16853. Tel: 814-360-0279. www.ajaxcnc.com
- Anderson America Corp., 11517-P Cordage St., Charlotte, NC 28273. Tel: 704-522-1823. www.andersonamerica.com
- Biesse America, P.O. Box 19849, 4110 Meadow Oak Drive, Charlotte, NC 28219. Tel: 704-357-3131. www.biesseusa.com
- C.R. Onsrud, 867 S. Main St., Troutman, NC 28166. Tel: 704-528-4528. www.cronsrud.com
- Delmac Machinery Group, 4322 Piedmont Parkway, Greensboro, NC 27410. Tel: 336-854-1211. www.delmac.com
- Hendrick/RWH Inds., 36 Commercial St., Salem, MA 01970. Tel: 978-741-3600. www.hendrickmfg.net
- Holz-Her US Inc., 5120 Westinghouse Blvd., Charlotte, NC 28273. Tel: 704-587-3400. www.holzher.com
- KOMO Machine Inc., 11 Industrial Blvd., Sauk Rapids, MN 56379. Tel: 800-528-4570. www.komo.com
- LA Enterprise, 8801 Consolidated Drive Suite A, Soddy Daisy, TN 37379.

- Tel: 423-648-2150. www.laenterpriseinc.com
- Larken CNC, 5350 Canotek Rd., Unit 13, Ottawa, Ontario K1J-9E1. Tel: 613-746-5685. www.larkencnc.com
- MultiCam, 1025 W. Royal Lane, DFW Airport, Dallas, TX 75261. Tel: 972-929-4070. www.multicam.com
- OmniTech Systems Inc., 8200-E Arrowbridge Blvd., Charlotte, NC 28273. Tel: 704-529-8369. www.omnitechsystems.com
- SCM Group USA, 2475 Satellite Blvd., Duluth, GA 30096. Tel: 800-292-1850. www.scmgroup-usa.com
- ShopBot Tools Inc., 3333B Industrial Drive, Durham, NC 27704. Tel: 888-680-4466. www.shopbottools.com
- Solid Wood Systems Inc., 3202 E. Kivett Drive, High Point, NC 27260. Tel: 336-884-0700. www.solidwoodsystems.com
- Stiles Machinery Inc., 3965 44th St., Grand Rapids, MI 49512. Tel: 616-698-7500. www.stilesmachinery.com
- Techno Inc., 2101 Jericho Tpke., New Hyde Park, NY 11040. Tel: 800-819-3366. www.techno-isel.com
- Thermwood Corp., P.O. Box 436, Dale, IN 47523. Tel: 800-533-6901. www.thermwood.com