American MACHINIST

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Penton

Penton Media, Inc.

It's small, fast, and precise

Built for both short and long production runs, Citizen's R04 Swiss turning center handles rapid production of small, high-precision parts up to 0.16-in diameter. Four RO4 models accommodate industries such as electronics, medical/surgical, and aerospace: Type I tackles basic Swiss turning; Type II comes with live tooling; Type III has a back spindle; and Type IV comes with both a back spindle and live tooling.

Depending on the model, the Cincom R04 mounts either 10 or 13 turning tools or a combination of live and turning tools. The main spindle indexes in 15° increments. And, as an option, a main spindle with 1° increments is available. Furthermore, the machine delivers a 1.08-in. stroke in the *X1* and *X2* axes, 2.83 in. in the *Y1* and *Y2* axes, 2.72 in. in the *Z1* axis, and 4.65 in. in the *Z2* axis.

The machine's linear motors and high-speed spindles give it its speed. While the main spindle turns at speeds from 200 to 20,000 rpm, the back spindle delivers 100 to 10,000 rpm. In addition, super-high-speed tool posts coupled with a pre-selection feature keep tool indexing to only fractions of a second. Also, a new chuck mechanism opens and closes the chuck without reducing the main spindle speed. This eliminates the need to decelerate and re-accelerate between cycles.

Linear motors serve all axes, eliminating backlash and letting the tool posts travel and respond at speeds faster than previous models. Rapid traverses of 1,181 ipm help minimize cycle times. Moreover, the Cincom R04 is equipped with two independently driven gang-tool posts so it processes like a cam lathe.

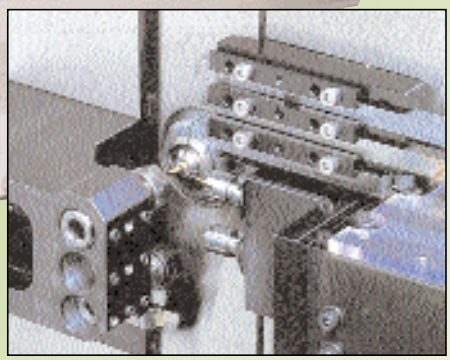
According to the company, aligning the center of the main spindle with the *Z*-axis slide eliminates thermal distortion. And with the addition of a scale-feedback control, the machine handles submicron precision over long production runs.

The machine's base weight is approximately 1,764 lb, while its footprint is a compact 22.04×48.2×55.5 in.

Among its optional accessories is the ASP-04A automatic magazine barfeeder. Built by Alps Tool Co. Ltd., it has a special bar gripper that handles bar diameters as small as 0.027 in. In addition, a top catching system uses a scissors-like gripper to pick up the bar while a guide-bar takes the stock downline for machining. Other options include a stationary-guide bushing device with an open/close function, chip conveyor, and cutoff-tool-breakage detector.

Marubeni Citizen-Cincom Inc.
Allendale, N.J.
www.marucit.com
Circle 309

Designed for machining small parts up to 0.16-in. diameter, the Cincom R04 Swiss turning machine tackles sub-micron production over long runs.



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