

# Machinery: Metalcutting, Chipmaking

## Multitasking: 3-D Machining and Vertical Turning



Burkhardt+Weber has expanded its model range of the multitasking MCT series with the MCT 1250. A variety of adaptable chip cutting tasks with rotating tools, like milling, drilling, boring, grinding, CNC facing, 3-D milling and more are combined with rigid vertical turning for large part sizes. The high-speed torque table with up to 1,400 x 1,600 mm (55.1" x 63.0")

pallet size will accommodate parts with work volumes within 2,800 mm swing and 2,500 mm part heights. "Precise machining results are secured with controlled cooling of the table torque motor that ensures table frame stability and precise machining," said a company spokesperson. The table design delivers turning speeds up to

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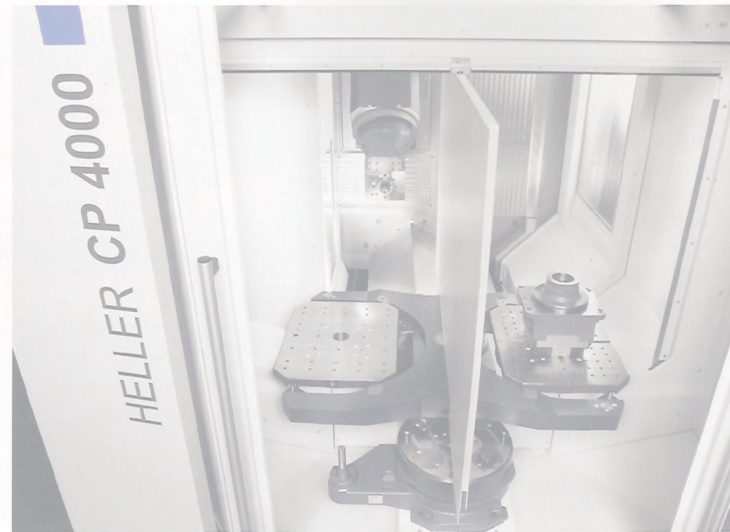
## 5-Axis Machining Center for Reduced Set-Ups, High Precision

The recently introduced CP 4000 series horizontal machining centers accomplish horizontal, vertical and tilted turning with A- and B-axes with high dynamics and chip removal rates. Built for a wide range of applications, the 5-axis mill/turning center CP 4000, equipped with PCU 63 swivel head

unit and HSK-T 63 spindle taper work area of 800/800/1,045 mm

With 44 kW power, 242 Nm and up to 10,000 RPM spindle the CP series achieves complete turning operations, precise speed and acceleration and v

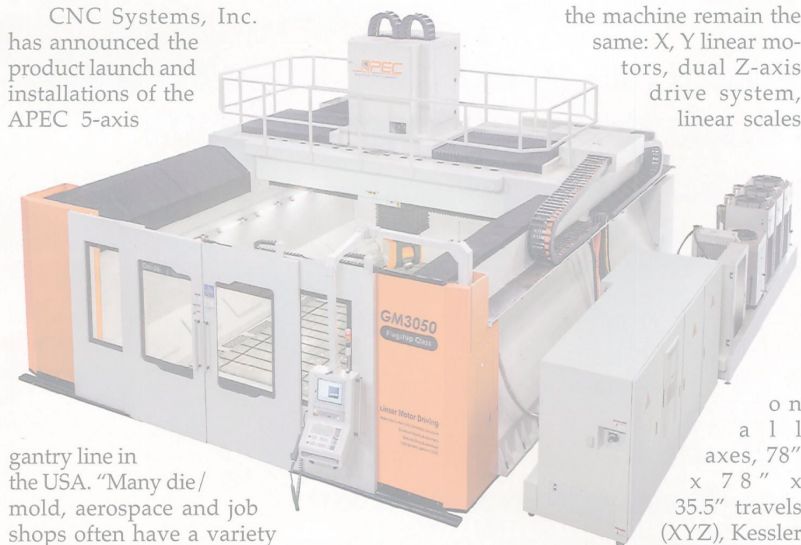
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## 5-Axis Gantry Line

CNC Systems, Inc. has announced the product launch and installations of the APEC 5-axis



gantry line in the USA. "Many die/mold, aerospace and job shops often have a variety of materials to machine and sometimes have to switch from a high RPM machine to a machine with low RPM, high torque and high horsepower," said a company spokesperson. "The APEC 5-axis gantry is designed to meet the challenge of machining a variety of materials with different cutting conditions."

The APEC G2020 machine offers 92 HP with an 18,000 RPM HSK 63 spindle. This machine has several different configurations, but the basic features of

the machine remain the same: X, Y linear motors, dual Z-axis drive system, linear scales

a Heidenhain ITNC-530 full 5-axis CNC control.

The GM3050 can machine a part as large as 118" x 196". Other machines, such as the GF series, can machine parts as large as 236" x 1,181" and offer dual independent gantries, each with its own 5-axis head. The GM series also offers linear motors on all axes with spindle speeds up to 24,000 RPM.

"The advantages of having the

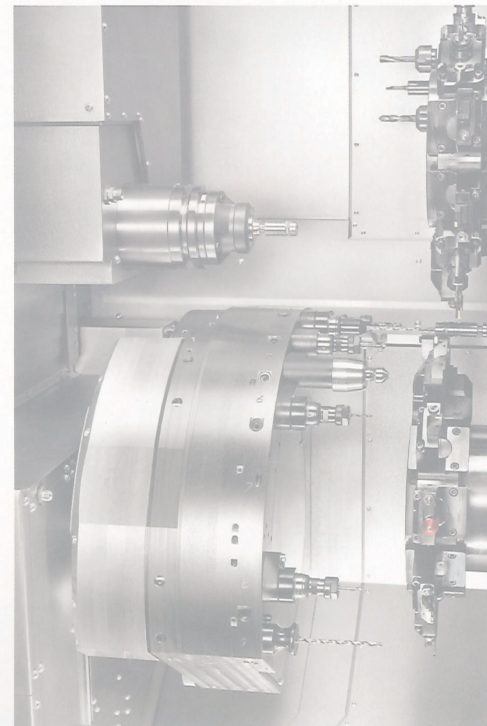
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## Sliding/Fixed Headstock Automatic Lathe

The TRAUB TNL32-11 is the latest addition to the TRAUB TNL32 sliding/fixed headstock automatic lathe series. Its signature feature is a front working attachment mounted on a cross-slide, which raises the number of linear axes on the machine to 11. This means that the TRAUB TNL32-11 can perform simultaneous machining with three fully independent tools. This saves machining time—especially for components with a high proportion of drilling.

The TNL32-11 has a headstock moving in the Z-axis, an upper and identical lower turret with X, Y and Z-axes, and a counter spindle movable in the X and Z directions. A

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Up to three tools can be used simultaneously to produce independent contours.



## Multitasking

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350 RPM and uses a contact-free rotary sealing system to avoid wear from fric-

tion. An automatic balance control system addresses load distribution with high turning speeds.

The main milling spindle, with 41 kW (55 HP) and 1,400 Nm (1,032 ft.-lbs.)

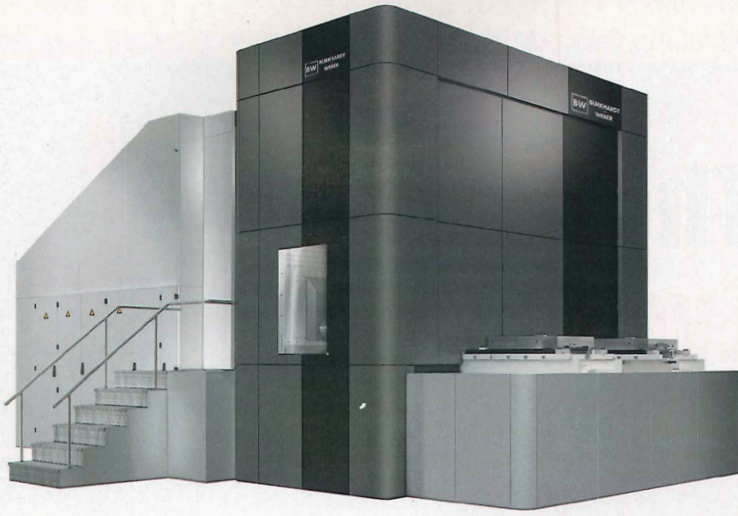
low end torque, uses an HV swivel design for machining with rotating tools, which includes 3-D milling and CNC turning for steel, cast iron and other tough to cut alloys. The two-step geared spindle unit is cooled by four individual cooling circuits for continuous operation at maximum speed. The spindle can automatically orient from horizontal to vertical work position in less than 2 sec. while running at 8,000 RPM. A master-slave axis drive system is built for precision performance in contouring and clamped mode. A hydraulic brake system supplies 6,500 Nm (4,800 ft.-lbs.) of holding torque.

For high capacity or precision CNC turning an arrangement of four symmetrically arranged clamping cylinders, located 250 mm (9.84") apart from each other securely, lock the turning tool adapter in place. The arrangement transfers shock loads from turning direct into

the machine frame and thus safeguards the spindle bearings, achieving high capacity and precision full featured turning results. The turn toolholder and the turn tools are automatically loaded from the rack-type tool magazine. Tool capacity for stationary tuning tools or rotating tools of up to 1,200 mm length and 165 lbs. of weight provide flexibility for rigid tool layouts. A multi-station tool load station features ergonomic, safe tool loading during machine operation.

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## 5-Axis Gantry Line from CNC Systems

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APEC family of machines to offer to our customers—with the variety of sizes, small footprints and spindle configurations—allow a manufacturer to install a large capacity machine into a smaller footprint in their facility," said the spokesperson.

A product catalog is available from CNC Systems. Parts, service and support are already in place for this machine line.

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## 5-Axis Machining Center for Reduced Set-Ups



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adjustment to achieve workpiece-specific precision and surface finish.

The CP 4000's machine concept is designed for turning operations, using a fifth axis provided by the tool. Vertical and horizontal turning operations of outer and inner contours can be accomplished with the C-axis and optional A- and B-axes.

The CP 4000 is designed for productive cutting using economically efficient cutting parameters. High cutting performance is achieved due to the extremely stiff swivel-head geometry, torsional stiffness and form fit provided by a spindle locking feature.

When the workpiece must be rotated against the tool, the rotary table with direct torque drive delivers the required power and speeds up to 1,000

RPM. To identify imbalances on the workpiece or the rotary table, HELLER developed a machine function that uses internal drive signals to identify even the slightest imbalances on the workpiece, enabling precise centric clamping. A specially defined user interface supports the operator in correcting imbalances. For turning tools, HELLER additionally offers a standard tool measurement system using tactile sensors. The CP 4000 is typically equipped with Siemens Sinumerik 840 Dsl control.

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