CAX SERIES

Models Available: CAX-800, CAX-1000, CAX-1200

RACER

High-Quality is our Priority

PHANTOM MACHINE TECHNOLOGY ™

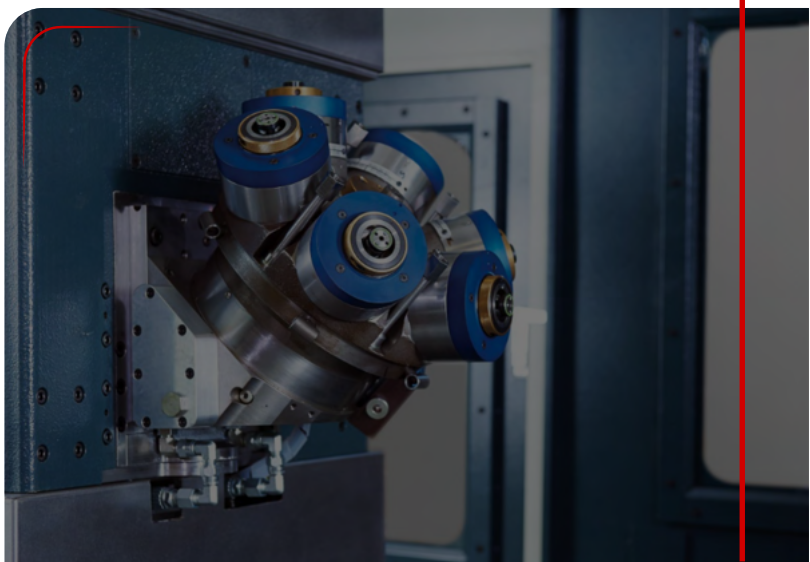
RACER Machinery International Inc. and its team of experts have developed a patent technology so advanced that it redefines all aspects of the machine tool industry. This includes everything from the production of the equipment to the end users machining time, tooling requirements, tool savings and workplace noise pollution.

BENEFITS

- Dramatically reduced machining time.
- Astounding cutting performance.
- Versatility in performance.
- Remarkable reduction in noise pollution.
- Extensive reduction in tooling costs; increase in tooling life.
- Easy setup and use.
- Flexibility in production capacity.
- Rigid construction assures optimal rigidity and stability during heavy cutting.
- Harmonized assembly allows for high quality finishing.
- Environmentally friendly manufacturing process.

CAPABILITIES

- Spindle Speeds up to 24,000 rpm.
- X travel up to 20 meters.
- Bore sizes up to 610 mm.
- Multi axis simultaneous controlled movement.
- Taking heavy duty machining to the next level.
- Each machine has a dynamic and static accuracy test.
- Automatic tool changer up to 240 tools.



Machining Performance

Highly Rigid One-Piece Structure

The U-Type design of the structure on this machine delivers excellent thermal performance and stability under load. This design minimizes the floating effect during movement. The full integration of the rotary table into the base ensures excellent accuracy during machining.

Built with patented advanced Phantom Machine Technology

It redefines all aspects of the machine tool industry. This includes everything from the production of the equipment to the end users machining time, tooling requirements, tool savings and workplace noise pollution.

Built-in Spindle

The built-in spindle is equipped with high power motor, delivering excellent cutting performance. With the integrated cooling system, the design ensures thermal stability during machining.

Large Workpiece 5 Axis Performance

5 axis machining supplies the requirements of the different industries that we serve such as automotive, armed forces & defense, aerospace, mechanical engineering, medical, precision engineering.

Thermal Stability

The CAX series 5 Axis machining center feature cooling systems for both the ballscrews and the direct drive motors to eliminate the effects of thermal growth and maintain excellent precision during machining.

Siemens

SINUMERIK ONE Control

SINUMERIK ONE CONTROL enables a consistent **“digital-first” strategy.**

Key manufacturing processes are always simulated first using **digital twins;** in other words, detailed virtual images of the controls and machining.

The result is faster communication with customers about deadlines, more accurate planning and job preparation, and increased productivity, even with smaller batch sizes and an increasing range of variants.

- 19inch TFT Colour Flat Screen
- Keyboard Unit with Full Keyboard,
- Key-operated Switch and USB and Ethernet interface
- 5 Axis Transformation Machining and Tilted
- Workplane Function
- Machining Package 5 Axes Contains
- Multi-axis Interpolation
- ShopMill

- Residual Material Detection and Machining for Contour
- Pockets and Stock Removal
- 3D Simulation (Finished Part)
- Simultaneous Recording
- Advanced Surface Motion Control
- Additional HMI User Memory on Compact Flash Card of the
- NCU
- 3D Tool Radius Compensation

- Measurement Cycle for
- Improving Accuracy of Roation & Swiveling Axes (Measure
- Kinematics)
- Spline Interpolation (A, B & C Splines)
- TANSMIT/Cylinder Surface Transformation
- Measuring Cycles for Drilling/Milling
- Collision Avoidance

SIEMENS | RACER

Specifications

MODEL		CAX-800	CAX1000	CAX-1200
		Double Driven Table	Double Driven Table	Double Driven Table
WORK TABLE				
Worktable Size	mm	Ø800	Ø1000	Ø1200
T-Slot		14H11 x 7	14H11 x 7	14H8 x 12
Max. Workpiece	mm	Ø800 x H560	Ø1000	Ø1200 x H900
Worktable Load	kg	1300	2000	2600
MOVEMENT				
X Axis Travel	mm	800	1000	1200
Y Axis Travel	mm	1010	1010	1100
Z Axis Travel	mm	650	850	1000
Spindle Nose to Worktable	mm	150 ~ 800	150 ~ 1000	300 - 1250
A Axis Rotating Angle		± 120°	± 120°	± 120°
C Axis Rotating Angle		360°	360°	360°
X/Y/Z Positioning Accuracy	mm	+/- 0.004	+/- 0.004	+/- 0.004
X/Y/Z Repeatability Accuracy	mm	+/- 0.002	+/- 0.002	+/- 0.002
A/C Positioning Accuracy	arc-sec	+/- 8	+/- 8	+/- 8
A/C Repeatability Accuracy	arc-sec	+/- 4	+/- 4	+/- 4
SPINDLE				
Spindle Taper		CAT-50 / HSK-A63	HSK-A63	HSK-A100
Max Spindle Speed	rpm	20000	20000	20000
Spindle Drive Method		Built-in	Built-in	Built-in
Spindle Power (S1-100% / S6-40%)	kW	25 / 35		
FEEDS				
Rapid Speed (X/Y/Z)	M/min	50	50	
Cutting Feed (X/Y/Z)	M/min	20	20	
A Axis Max Speed	rpm	60	60	50
C Axis Max Speed	rpm	100	100	80
A Axis Working Torque (R/M)	Nm	1040 / 2080	1040 / 2080	1040 x 2 / 2080 x 2
C Axis Working Torque (R/M)	Nm	401 / 800	401 / 800	1040 / 2080
A Axis Clamping Force	Nm	3200	3200	3200 x 2
C Axis Clamping Force	Nm	2000	2000	3200
A.T.C.				
Tool Magazine		64 std. / 96 / 120		
Max Tool Diameter & Empty Adjacent Too	mm	125/245		
Max Tool Weight	kg	25		
CUTTING COOLANT SYSTEM				
Coolant Thru Spindle		20bar (380V / 50Hz 2.2kW / 60Hz 4.0kW)		
		70bar (380V / 60Hz 5.5kW)		
Chip Conveyor		Screw type 0.2kW x2		
		Chain type / Scrape type 0.2kW		
OTHERS				
Power Consumption	kVA	75	100	120
Machine Size (w/swinging Control Panel)	mm	5060 x 2405 x 3850 (64T)	963 x 2240 x 3395 (64T)	6440D x 5270W x 4862 H
Machine Weight	kg	19200	24500	29200

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Specifications

MODEL	CAX-800	CAX-800T	CAX-1000	CAX-1200	CAX-1200T
20 Bar CTS w/Change-over Inline Filter	●	●	●	●	●
Spindle Side Air Blow / Tool Unclamping Air Blow /	●	●	●	●	●
Rotary-swivel Table	●	●	●	●	●
Built-in Spindle	●	●	●	●	●
Spindle Nose Coolant Jet Flushing & Front Side	●	●	●	●	●
Extra Coolant Flushing Injection at Both Side of	○	○	○	○	○
Spindle Cooling Unit	●	●	●	●	●
Automatic Grease Lubrication System for Guideways	●	●	●	●	●
3 Axes Roller-type Guideway	●	●	●	●	●
64 Tool Magazine	●	●	●	●	●
96 Tool Magazine	○	○	○	○	○
120 Tool Magazine	○	○	○	○	○
Chain Type Chip Conveyor	●	●	●	●	●
A/C Axis with Heidenhain Angle Encoder	●	●	●	●	●
Laser Tool Setting System	○	○	○	○	○
Workpiece Measurement System and Calibration Ball	○	○	○	○	○
Machine Window with Safety Glass	●	●	●	●	●
Auto Power Off	●	●	●	●	●
Z Axis Brake Motor Without Counter-balance Block	●	●	●	●	●
Ethernet Port	●	●	●	●	●
Rigid Tapping	●	●	●	●	●
3-Color Warning Lamp	●	●	●	●	●
LED Work Lamp	●	●	●	●	●
Tools & Tool Box	●	●	●	●	●
Spray Gun	●	●	●	●	●
CE/EMC Conformity	○	○	○	○	○
Chip Cart	○	○	○	○	○
Transformer	○	○	○	○	○
Voltage Regulator	○	○	○	○	○
Oil-mist Coolant System	○	○	○	○	○
Cutting Fluid Cooling System	○	○	○	○	○
Coolant Purification System	○	○	○	○	○
Ballscrews with Internal Cooling System	○	○	○	○	○
Absolute Type X, Y, Z Axes Optical Scale	○	○	○	○	○
50 bar or 70 bar CTS w/Paper Filter Tank &	○	○	○	○	○
Tool Holder HSK-T100		●			●
Tool Holder CAPTO-C6		○			○
Tool Holder CAPTO-C8		○			○

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