

CINCINNATI MACHINES

SMART Series

AFFORDABLE WORLD CLASS VERTICAL MACHINING CENTERS

World Class
Engineering & Manufacturing

Insures

- ✓ Design Simplicity
- ✓ Efficiency
- ✓ Rigidity
- ✓ Precision
- ✓ Performance
- ✓ Quality
- ✓ Longevity
- ✓ Affordability

***SMARTe** Box Ways - Toolroom
Ultra-Affordable

***SMART** Box Ways - Heavy-Duty
Toolroom or High production

***SMARTi** Linear Guide Ways
High-Speed Feeds and Speeds

***SMART-XT** Hard - Milling
Big-Plus 50 Taper Tooling



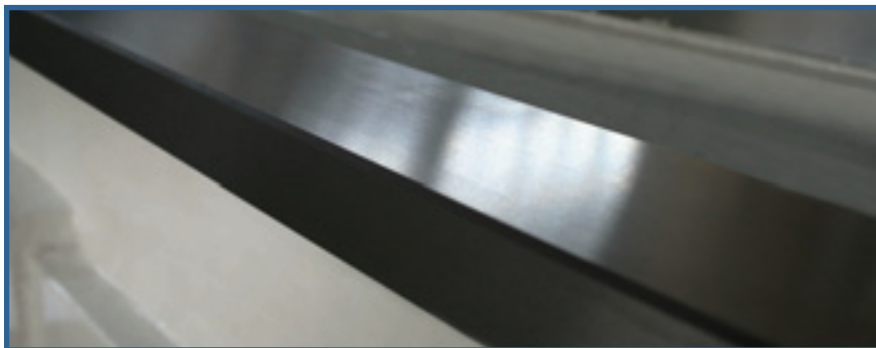


Available in 3 sizes, **SMARTe** features The Fanuc Oi-Mate CNC, Hard Box Ways, Tool Changer, 8,000 rpm Spindle, and 480 ipm Rapids as standard. With all of these quality features, you will be amazed at the affordability of **SMARTe**

SMART Series Machines

SMART Series Vertical Machining Centers are Hand-Crafted to World Class Engineering and Manufacturing Quality Standards. At the **SMART** factory Headquarters, Quality is more than a mind set, it is a culture. All critical parts such as, spindles, bearings, ball screws, and hydraulic units, etc are high-quality Japanese or Taiwan made and each component is quality inspected before assembly. The entire engineering and manufacturing process places much emphasis on the importance of design simplicity, efficiency, quality, and affordability. **SMART** machines include state-of-the-art heavy-duty meehanite castings that have been seasoned and annealed using the latest Hi-Tech processes. To insure quality, all **SMART** machines are subjected to a grueling set of tests at the halfway mark, including a 48 hour run test, along with accuracy and other checks for machine fit etc. Final machine runoff testing is much more comprehensive, and includes complete Renishaw ball bar and accuracy testing, an additional 48 hour test run under normal machine load conditions, and finally a complete 150 point machine inspection.

SMART, SMARTe, & SMART-XT all feature Heavy-Duty Hard Box Ways for Maximum Rigidity and Performance



SMART Vertical Machining Centers



Let us start custom-crafting your **SMART** VMC today

SMART VMC's feature the Fanuc Oi-MD CNC, 16 Tool Changer, either CAT 40 taper tooling with 8,000 rpm, or CAT 50 Taper tooling and 6,000 rpm standard. **SMART** VMC's are available with virtually any machines options that you may wish, such as spindle speeds to 15,000 rpm, up to 35 HP, up to 5 Axes, various coolant systems, and tool changers up to 32 tools and Arm-Type, various type chip conveyors.

SMART-XT MEANS EXTREME MILLING

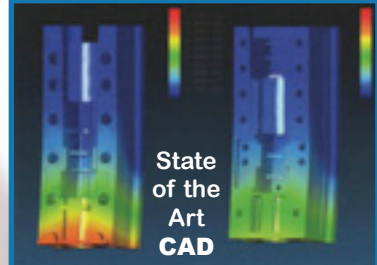
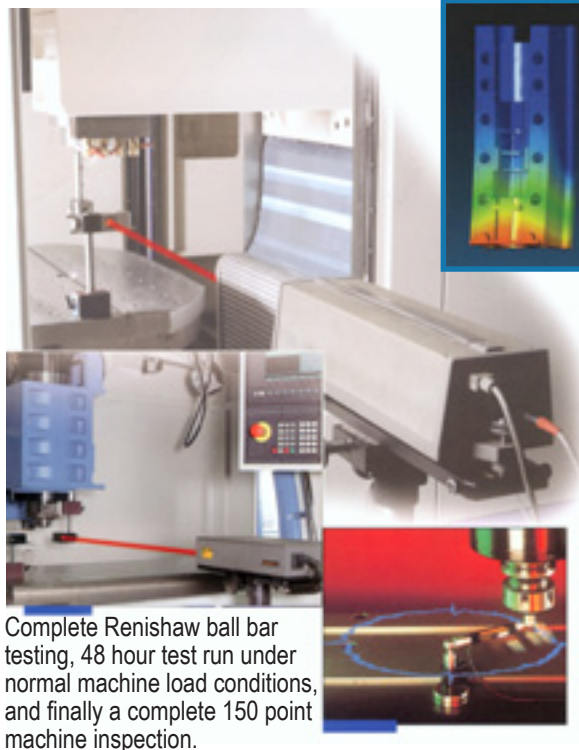
BIG PLUS 50 TAPER TOOLING FOR HARD MILLING
33 HP CONTINUOUS, 12000 RPM FANUC STATE-OF-THE-ART
2 SPEED HIGH-TORQUE HIGH-SPEED SPINDLE DRIVE/MOTOR
THAT DRIVES A HEAVY-DUTY BIG PLUS TAPER
SELF CONTAINED SPINDLE CARTRIDGE

Available as **SMART-XT** 1100/1300/1600/2000.
 (Size Specifications same as **SMART** 1100/1300/1600/2000 on next page)



SMARTi VMC's are manufactured from the ground up to provide high-speed machining capability. Fanuc Oi-MD CNC, 16 Tool Changer, up to 15,000 rpm CAT 40 Spindle, 1200 ipm Rapids, High-Quality Heavy-Duty **THK** Linear Guide Ways XYZ, and positioning accuracies of +/- 0.0002" are standard.

SPECIFICATIONS	<i>SMARTe</i>			<i>SMARTi SEE MACH-1 SERIES</i>				<i>SMART</i>						
	Hard Box Ways Affordable Toolroom			Linear Guide Ways High Speed High production				Hard Box Ways Heavy-Duty Toolroom or High Production						
Model	SMARTe600	SMARTe700	SMARTe800	SMARTi650	SMARTi850	SMARTi1000	SMARTi1100	SMART650	SMART850	SMART1000	SMART1100	SMART1300	SMART1600	SMART2000
Table size	12.6"x28"	16"x39"	19.7"x39"	17.7"x31.4"	19.7"x39.3"	19.7"x43.3"	20"x47"	17.7"x31.4"	19.7"x39.3"	19.7"x43.3"	20"x47"	26"x57"	31.4"x69.8"	35.4"x78.7"
Table load max.	880lb.	1320lb.	1670lb.	880lb.	1760lb.	1760lb.	1760lb.	880lb.	1760lb.	1760lb.	1760lb.	2860lb.	4400lb.	4400lb.
X axis travel	23.6"	27.5"	31.4"	25.6"	33.3"	39.3"	43.3"	25.6"	33.4"	39.3"	43.3"	51"	63"	70.8"
Y axis travel	13.7"	17.7"	19.7"	19.7"	20.4"	21.6"	24"	17.7"	20.4"	21.6"	24"	29.9"	31.4"	35.4"
Z axis travel	17.7"	19.7"	21.6"	19.7"	21.6"	21.6"	24"	17.7"	21.6"	21.6"	24"	27.5"	27.5"	26.7"
Spindle to table	2.7"-20"	2.7"-22.4"	2.7"-24.4"	5.9"-25.6"	4.3"-25.9"	4.3"-25.9"	4.3"-28.3"	5.9"-25.6"	4.3"-25.9"	4.3"-25.9"	4.3"-28.3"	5.1"-32.6"	5.1"-32.6"	6.3"-33"
T-slot size	.7"	.7"	.7"	.7"	.7"	.7"	.7"	.7"	.7"	.7"	.7"	.8"	.8"	.8"
Spindle Taper	Cat 30	Cat 40	Cat 40	Cat 40	Cat 40	Cat 40/50	Cat 40/50	Cat 40	Cat 40	Cat 40	Cat 40/50	Cat 50	Cat 50	Cat 50
Spindle speeds	6000rpm	8000rpm	8000rpm	8000rpm	8000rpm	8000rpm	8000rpm	8000rpm	8000rpm	8000rpm	8000rpm	6000rpm	6000rpm	6000rpm
Spindle power	5/7.5 hp	7.5/10 hp	7.510 hp	7.5 hp	10hp	10 hp	15 hp	7.5/10hp	10/15 hp	10/15hp	15/20 hp	20/25 hp	22/25 hp	20/25 hp
Rapid feed XYZ	300ipm	480ipm	480ipm	1200ipm	1200ipm	1200ipm	1200ipm	720ipm	720ipm	720ipm	720ipm	800/600ipm	800/600ipm	600/480ipm
Feed rates XYZ	.1-160 ipm	.1-160 ipm	.1-240 ipm	.1-240 ipm	.1-240 ipm	.1-240 ipm	.1-240 ipm	.1-240 ipm	.1-240 ipm	.1-240 ipm	.1-240 ipm	.1-200 ipm	.1-200 ipm	.1-200 ipm
Number of tools	10	16	16	16(20/24)	16(20/24)	16(20/24)	16(20/24)	16(20/24)	16(20/24)	16(20/24)	16(20/24)	16(20/24)	16(20/24)	16(20/24)
Positioning	+/-0.0003"	+/-0.0003"	+/-0.0003"	+/-0.0001"	+/-0.0001"	+/-0.0001"	+/-0.0001"	+/-0.0001"	+/-0.0001"	+/-0.0001"	+/-0.0001"	+/-0.0003"	+/-0.0003"	+/-0.0003"
Repeatability	0.0003"	0.0003"	0.0003"	0.00011"	0.00011"	0.00011"	0.00012"	0.00011"	0.00011"	0.00011"	0.00011"	0.00019"	0.00019"	0.00019"
Machine height	78"	91"	91"	87"	114"	114"	130"	74"	86"	86"	88"	106"	106"	122"
Floor space	78"x59"	98"x91"	98"x91"	80"x89"	87"x87"	87"x87"	110"x88"	87"x80"	114"x87"	114"x87"	130"x110"	141"x 122"	173"x143"	196"x153"
Machine weight	4400 lb	7040 lb	7090 lb	8360 lb	12200 lb	13200 lb	15400 lb	8360 lb	12100 lb	13200 lb	15400 lb	22000 lb	26400 lb	30800 lb



SMART Machines include Total Entire-Process Inspection and quality testing with half-way benchmark in process testing

Heavy-Duty Meehanite Castings are seasoned via Modern Hi-Tech Annealing processes

Complete Renishaw ball bar testing, 48 hour test run under normal machine load conditions, and finally a complete 150 point machine inspection.



SMART Series VMC's are all assembled in a new hi-tech factory utilizing Large Heavy-Duty Meehanite castings to insure maximum rigidity. All critical parts are high quality parts from Japan or Taiwan.

Heavy-Duty SMART Meehanite Castings on the assembly line



SMART VMC's on display at New Hi-Tech Factory

