CRUISER Series

Vertical Machining Center

Since 1960

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IT'S VERY WELL MADE IN TAIWAN

CE ISO 9001

Cruiser is all you can rely on for taking your business to higher levels of productivity.

VMC - 855 / 966
NVM - 1166
VMC - 1270 / 1470

VMC- 855

VMC- 966

The massive and strong construction provides a solid grounding for superior machining performance.
The **CRUISER series** achieves difficult tasks with ease and efficiency-and far beyond your expectations!

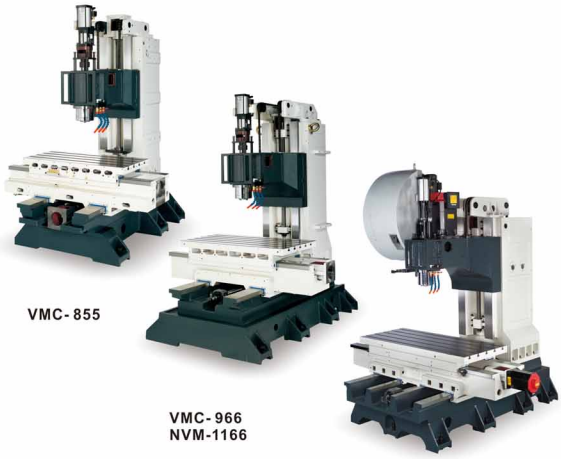
FEATURES

- Box ways are hardened, ground and utilize non-metallic liners that are virtually friction-free on all ways and gib surfaces. This ensures vibration-free cutting for consistently closer tolerances.
- All guideway mating surfaces are precision scraped and coated with Turcite B as well as anti-friction lining material.
- This series features innovative design concepts at very competitive prices. Also, this series offers all the flexibility and performance needed to face the requirements of an increasingly demanding industrial environment.
- VMC-1270 / 1470 is constructed of a vast machine bed with four box ways providing everlasting cutting performance reliability.

NVM-1166

VMC- 1270
VMC- 1470

A Perfect Arch Structure



VMC- 855

VMC- 966
NVM-1166

VMC- 1270 / 1470

Outstanding Features

- The pyramid machine construction features a perfect structural ratio. The major casting parts are scientifically rib reinforced, ensuring high accuracy for various machining applications. This outstanding machine construction effectively extend service life and features stable thermal effect and added dampening effect.
- When installing 3 axes ball screws, ball-bar testing and laser equipment are employed for parameter adjustment to achieve the best possible accuracy.
- X, Y, Z axis are rigid box type slideways. All slideways are hardened and precision ground and then coated with high quality low friction Turcite-B for maximum wear resistance. The mating surfaces are precision treated for long term accuracy.
- Optimized machine construction. The major machine parts, such as base, column and saddle, etc., are manufactured from high quality alloy cast iron. It features maximum stability, minimum deformation and lifetime accuracy. Square slideways feature a low friction co-efficient.
- 4 square slideways (for VMC-1270 / 1470) on Y-axis combined with gibs provided at inner sides for accurate across movement of Y-axis.
- 4 square slideways (for VMC-1270 / 1470) on the base Y-axis assure outstanding stability for table longitudinal and cross movements.

Extremely Fine Craftsmanship

Based on the tradition of precision manufacturing capabilities, outstanding scraping techniques and with attention to every detail, results in extremely smooth slideways and precise mating surfaces. Also, the fine craftsmanship upgrades machining accuracy, rigidity and ensures lifetime accuracy .

Spindle

The spindle housing has grooves for coolant circulation. While performing heavy cutting or high speed cutting, the circulated cooling system effectively removes spindle heat. The cooling system avoids spindle deformation due to over heating and avoids affecting machining accuracy due to the spindle center offset, while ensuring long service life of the spindle bearings. Cool catching system has a steel ball to hold the tool shank firmly.
Spiral circulated grooves on the spindle sleeve, incorporated with spindle oil cooler system as standard Efficiently remove the generating temperature providing the best solution on spindle accuracy for long term operation.

Belt Driven Spindle System

Chip Conveyor (optional)

During machining, chips are flushed into the chip auger, then delivered to chip tray. This ensures a cleaner working area at all time.
Please choose the most suitable chip conveyor accordance to your machining chip scenario

Chip type / Conveyor type	Curly Iron Chip	Metallic Chip	Non-Curly Chip	Curly Aluminum Chip	Aluminum Chip	Non-Metallic Chip
						
Link type	◉	◉	◉	⊙		⊙
Screw type		⊙	⊙		⊙	⊙
Scraper type			⊙	◉	◉	◉
Vanes type		⊙	⊙		◉	⊙

◉ Best efficiency ◉ Above average efficiency ⊙ Other possible choices

Direct Driven Spindle System (Optional)

- The spindle and drive motor are connected co-axially by a diaphragm coupling to achieve high-precision rotation of the spindle throughout is entire speed range.
- Even at full capacity, the spindle achieves high-precision machining conditions, such as varied directional cutting resistance machining, high helix angle end mill machining and back face machining.

German ZF 2-speed gear box, provide maximum cutting ability in low speed.

Direct driven and pretension design of Ball screw ø40 (ø50 V12/14) in Grade C3 can eliminate noise whole transmission, drop in temperature, stability accuracy and increase rigidity of machine.

Choose of Various CNC Controllers

MITUSUBISHI M70 / M720 / M730

FANUC 0i - MD / 31i - MB

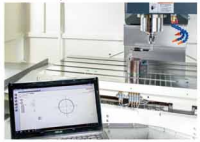
SIEMENS 810 / 840 DE

Quality & Inspection

Laser inspection

The high precision laser unit is applied for inspecting the geometric errors of machinery in axis movement. Inspection items include linear positioning accuracy, pitch error and backlash, etc.

Ball-bar inspection



A sophisticated ball bar tester is applied for adjusting the roundness accuracy and inspecting machining accuracy. Ensure the perpendicularity accuracy of 3D space.

Machine Specifications

Model			Unit	VMC-855	VMC-966	NVM-1166	VMC-1270	VMC-1470
TRAVEL	X axis		mm (inch)	800 (31.5)	900 (35.4)	1,150 (45.3)	1,200 (47.3)	1,400 (55.2)
	Y axis		mm (inch)	500 (19.7)	650 (25.6)	670 (26.4)	700 (27.6)	700 (27.6)
	Z axis		mm (inch)	520 (20.5)	600 (23.7)	600 (23.7)	600 (23.7) (BT-40) 630 (24.8) (BT-50)	600 (23.7) (BT-40) 630 (24.8) (BT-50)
	Spindle nose to table		mm (inch)	100~620 (4.0~24.5)	120~720 (4.8~28.4)	100~700 (4.0~27.6)	130~730 (5.2~28.7) (BT-40) 130~760 (5.2~30.0) (BT-50)	130~730 (5.2~28.7) (BT-40) 130~760 (5.2~30.0) (BT-50)
	Spindle center to solid column surface		mm (inch)	550 (21.7)	701 (27.6)	720 (28.3)	780 (30.7)	780 (30.7)
TABLE	Working area		mm (inch)	950 x 460 (37.5 x 18.2)	1,100 x 600 (43.3 x 23.7)	1,300 x 600 (51.2 x 23.7)	1,350 x 650 (53.2 x 25.6)	1,550 x 650 (61.0 x 25.6)
	Max.loading		kg	500	1,000	1,200	1,200	1,400
	T-Slots (No. x Width x Pitch)		mm (inch)	4 x 18 x 100 (4 x 0.7 x 4.0)	5 x 18 x 100 (5 x 0.7 x 4.0)	5 x 18 x 100 (5 x 0.7 x 4.0)	5 x 18 x 125 (5 x 0.7 x 5.0)	5 x 18 x 125 (5 x 0.7 x 5.0)
SPINDLE	Tool shank		–	BT-40	BT-40	BT-40	BT-40 (BT-50)	BT-40 (BT-50)
	Speed		rpm	10,000	10,000	10,000	8,000 (6,000)	8,000 (6,000)
	Transmission		–	Direct-Speed Belt Drive	Direct-Speed Belt Drive	Direct-Speed Belt Drive	Direct-Speed Belt Drive	Direct-Speed Belt Drive
	Bearing lubrication		–	Grease	Grease	Grease	Grease	Grease
	Cooling system		–	Oil cooled	Oil cooled	Oil cooled	Oil cooled	Oil cooled
	Spindle motor max. rating		kw (HP)	7.5 (10)	11 (15)	11 (15)	15 (20)	15 (20)
	Axis motor max. rating (MITSUBISHI)		kw	1.5 / 2.0 / 1.5	2.0 / 3.5 / 2.0	2.0 / 3.5 / 3.5	3.5 / 3.5 / 3.5	3.5 / 3.5 / 3.5
	Axis motor max. rating (FANUC, α)		kw	1.6 / 1.6 / 1.6	3.0 / 3.0 / 3.0	3.0 / 3.0 / 3.0	4.0 / 4.0 / 4.0	4.0 / 4.0 / 4.0
FEED RATES	Rapids on X & Y & Z axis		m/min	20 / 20 / 20	20 / 20 / 20	20 / 20 / 20	20 / 20 / 20	20 / 20 / 20
	Max. cutting feedrate		m/min	10	10	10	10	10
TOOL MAGAZINE	Tool storage capacity		pcs	20 armless / 24 arm	20 armless / 24 arm	20 (armless) / 24 (arm)	20 armless / 24 arm	20 armless / 24 arm
	Type of tool (optional)		type	BT-40 (CAT-40)	BT-40 (CAT-40)	BT-40 (CAT-40)	BT-40 (CAT-40) BT-50 (CAT-50)	BT-40 (CAT-40) BT-50 (CAT-50)
	Max. tool diameter		mm (inch)	100 (4.0) armless 76 (3.0) arm	100 (4.0) armless 76 (3.0) arm	100 (4.0) (armless) 76 (3.0) (arm)	100 (4.0) armless 76 (3.0) arm	100 (4.0) armless 76 (3.0) arm
	Max. tool weight		kg	7	7	7	7 (BT-40) / 15 (BT-50)	7 (BT-40) / 15 (BT-50)
	Max. tool length		mm (inch)	250 (9.8) armless 300 (11.8) arm	250 (9.8) armless 300 (11.8) arm	250 (9.8) (armless) 300 (11.8) (arm)	250 (9.8) armless 300 (11.8) arm	250 (9.8) armless 300 (11.8) arm
AVG. CHANGING TIME (ARM)	Tool to tool		sec.	2.7	2.7	7 (armless) / 2.7 (arm)	2.7 (BT-40) / 3.8 (BT-50)	2.7 (BT-40) / 3.8 (BT-50)
	Chip to chip (50% Z axis)		sec.	6.7	6.7	11 (armless) / 6.7 (arm)	6.7 (BT-40) / 11 (BT-50)	6.7 (BT-40) / 11 (BT-50)
	Air source required		kg/cm²	6 up	6 up	6 up	6 up	6 up
ACCURACY	Positioning	VDI 3341	mm (inch)	P 0.01 (0.0004)	P 0.01 (0.0004)	P 0.01 (0.0004)	P 0.01 (0.0004)	P 0.01 (0.0004)
	Repeatability	VDI 3341	mm (inch)	Ps 0.006 (0.0003)	Ps 0.006 (0.0003)	Ps 0.006 (0.0003)	Ps 0.006 (0.0003)	Ps 0.006 (0.0003)
DIMENSION	Machine weighe (Net)		kg	4,800 armless 5,150 arm	5,600 armless 6,000 arm	7,000 (armless) 7,400 (arm)	8,000	8,400
	Power source required		KVA	15	15	15	30	30
	Floor space (L x W x H)		mm (inch)	2,340 x 2,465 x 2,600 (91.2 x 97.1 x 100.4)	2,600 x 2,600 x 2,700 (100.4 x 100.4 x 106.3)	3,080 x 2,860 x 2,800 (121.3 x 112.6 x 110.3)	3,400 x 3,800 x 2,920 (BT-40) (133.8 x 149.6 x 115.0) 3,400 x 3,800 x 3,030 (BT-40) (133.8 x 149.6 x 119.3)	3,840 x 3,800 x 2,920 (BT-40) (151.2 x 149.6 x 115.0) 3,840 x 3,800 x 3,030 (BT-40) (151.2 x 149.6 x 119.3)
	Shipment advice		–	1 x 40' HQ (4 sets)	1 x 40' HQ (3 sets)	1 x 40'HQ (2 set)	1 x 40' HQ (1 set)	1 x 40' HQ (1 set)

※ All specifications are subject to change without prior notice. ※ Machine colors shown in this catalog are for reference only. Correct colors are dependent on the actual machine.

STANDARD ACCESSORIES:

- Spindle speed 8,000 / 10,000rpm (depend on machine model)
- Operation manual
- Spindle air blast (M code)
- Controller (MITSUBISHI M70)
- Cycle finish indicator and alarm
- Heat exchange for electric box
- Tool box
- Spindle air blow system
- Auto lubricating system
- Fully splash guard
- Remote handwheel
- Spindle orientation
- Coolant equipment
- Coolant equipment
- Auto tool changer (armless)
- Twin-chip auger (rear-out) (VMC-1270 / 1470)
- Rigid tapping
- Manual pulse generator
- RS 232C port (10M)
- Leveling kits
- LED lamp 2 pcs
- Transformer
- Spindle oil cooler
- Coolant gun
- Air socket

OPTIONAL ACCESSORIES:

- Spindle speed 10,000/12,000rpm (belt)
- Coolant through spindle (CTS)
- Controller (FANUC / SIEMENS / HEIDENHAIN)
- German ZF gear box
- Work piece measurement system
- Auto tool length measuring device
- CNC rotary table
- Oil skimmer
- Link or screw type chip conveyor with tank (screw type may be standard on some machine model)
- Linear scales (VMC-1270 / 1470 only)
- Direct-Drive 12,000 / 15,000 rpm
- Spindle coolant ring
- Coolant through tool holder
- Vacuum package
- Quick tool change (2 sec.)