



PROVIDENCE TECHNOLOGY CO.,LTD

- NO.1016-1, QINGGUANG RD., WURI DIST., TAICHUNG CITY 414, TAIWAN(R.O.C.)
- Tel : +886-4-23359089
- Fax : +886-4-23359079
- Web : www.providence.com.tw
- Email : sales@providence.com.tw



PROVIDENCE TECHNOLOGY CO.,LTD

Linear ways series / Box ways series HORIZONTAL MACHINING CENTER



Gilga

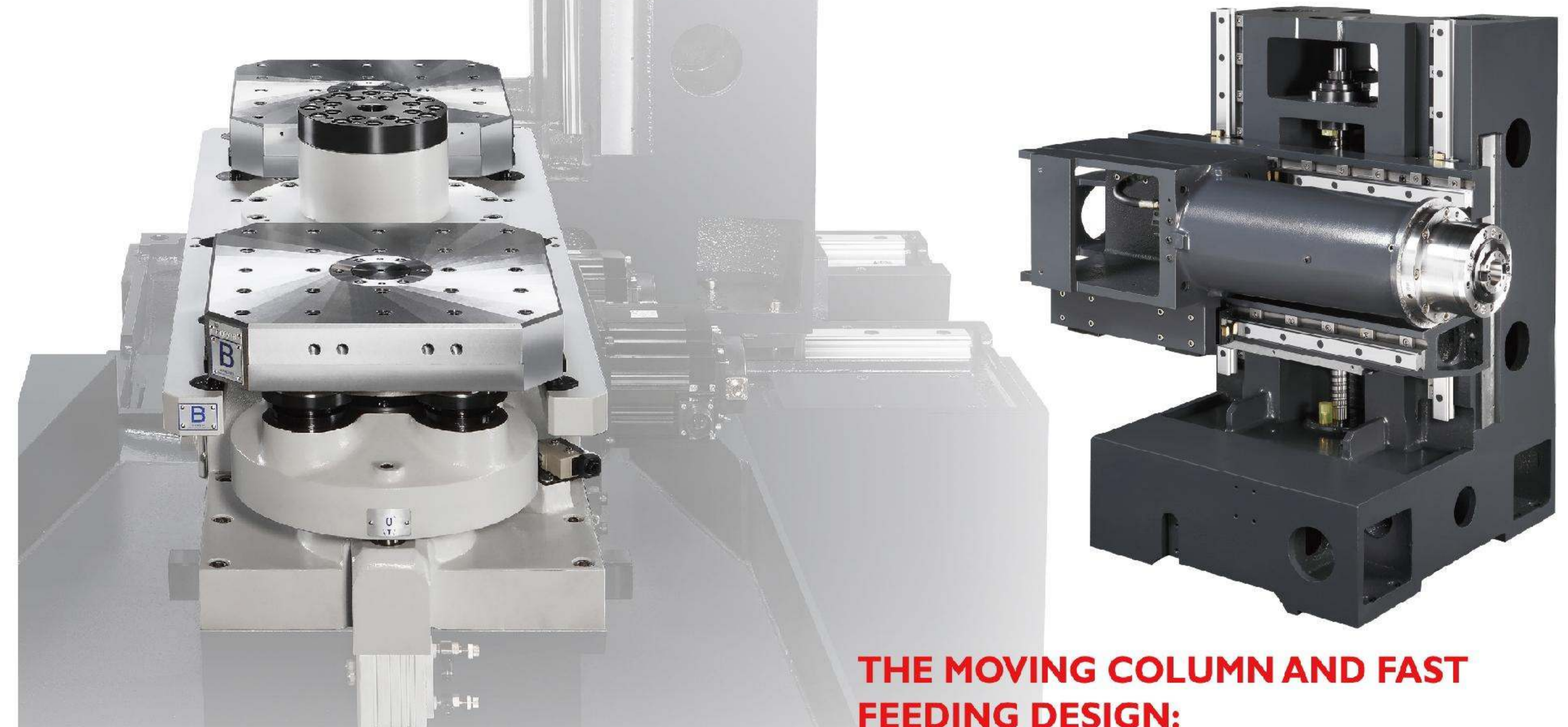
New Arrival



HMC **HORIZONTAL MACHINING CENTER**

SMALL SPACE, HIGH PRODUCTIVITY – EXTRA VALUE CONCEPT

The GiGa Series small Horizontal Machining Center is moving column design, fast moving, under at high feeding can has less inertia, high precision and high reliability; reliable axial positioning , can shorten machining time , with high rigidity ball screw and linear guideway design, to reach high speed, high precision and high efficiency, also with auto. pallet changer design to save space and machining time



RAPID TABLE EXCHANGE:

Table by servo auto. changer system can support five axis machining and with hydraulic locking system allow space saving and improve performance, customers will benefit save investment and improve productivity by 200%

THE MOVING COLUMN AND FAST FEEDING DESIGN:

Moving column design with direct motor drive system, under moving at high feed can has less inertia, high precision and high reliability; reliable axial positioning , can shorten machining time



HMC

320U



HORIZONTAL MACHINING CENTER

High and Sharp Speed To Upgrade High Productivity

HMC-320U — *GiGa series*

25X
40X



VERTICAL 5-AXIS MACHINING CENTER
The High-performance Machining

MVL 25X 40X — *GiGa series*

MVL ⁵AXIS SERIES **HIGH STABILITY**

25X 40X

For the needs of aerospace industry , GiGa Series actively involved in R&D of vertical 5-axis machining center, the current model is : MVL-25X , MVL-40X ...other models, to satisfy industrial and manufacturing production needs



MVL-25X/40X

X, Y, Z -axis travel 600x550x420mm
BT40, C -axis rotary table: Ø250
A-axis rotary way: -30°~+120° **MVL-25X**

X, Y, Z -axis travel 1000x600x480mm
BT40, C -axis rotary table: Ø400
A-axis rotary way: -30°~+120° **MVL-40X**



THE 5-AXIS SIMULTANEOUSLY TECHNOLOGY

THE 5-AXIS SIMULTANEOUSLY TECHNOLOGY to enhance complex machining accuracy and quality, table surface and c-axis center at the same level, to improve the accuracy of machining datum point (program reference point)

VERTICAL 5-AXIS **MVL** 25X 40X



APC AUTOMATIC PALLET CHANGER

The GiGa series from Providence is designed to meet high accuracy, high speed and high efficiency machining requirements. This machine allows the operator to set up workpieces while the machine is performing cutting, to increase efficiency.

AUTOMATIC PALLET CHANGER APC

A pallet change drive by servo motor within 7 sec.
An air blast device is applied for cleaning the positioning blocks before pallet positioning; hence high positioning accuracy is ensured.



COUNTER BALANCE WEIGHT PROPERLY GUIDED FOR INCREASED STABILITY

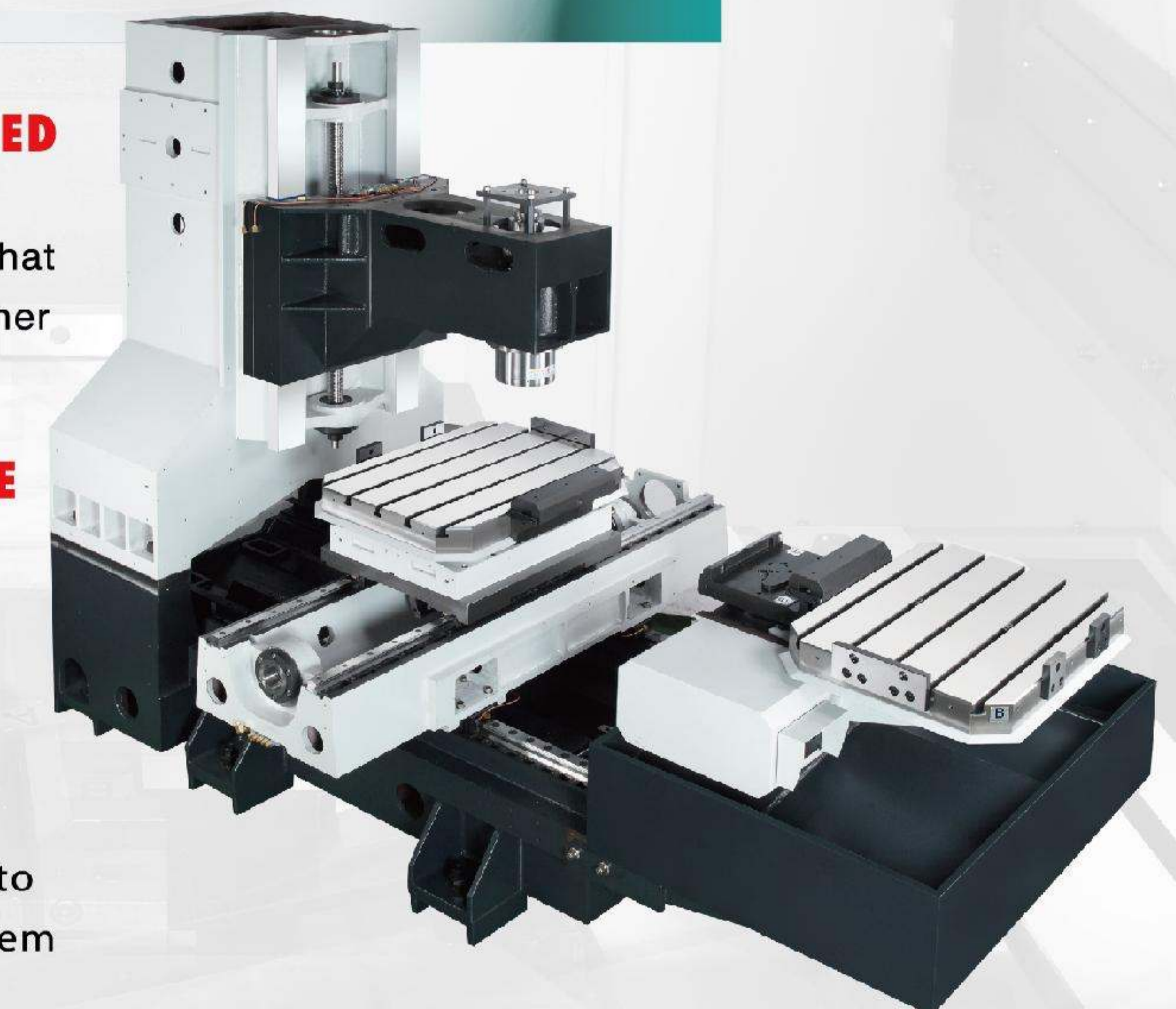
The counter balance system on the Z-axis has a guide that allows the spindle head to move stably, resulting in higher machining accuracy.

RUGGEDLY CONSTRUCTED SADDLE AND TABLE

The deformation free saddle and table are specially designed to provide heavy load resistance capability, resulting in better machining accuracy.

PRESSURE-RELIEF ELECTRIC LUBRICATOR

A lubricator combined detective volumn distributor to ensure the oil will feed during interval time. This system can make sure the equally lubricated to all axes.



VERTICAL with APC MVL 432 / 564 / 724 / 750 U



VERTICAL MACHINING CENTER

Vertical Machining Center with APC

MVL 432/564/724/750 U — *GiGa series*

MACHINE

SPECIFICATIONS

MODEL	UNIT	HORIZONTAL		MODEL	UNIT	AUTOMATIC		PALLET CHANGER		MODEL	UNIT	5 AXIS	
		HMC-320	HMC-320U			MVL-432U	MVL-564U	MVL-724U	MVL-750U			MVL-25X	MVL-40X
TRAVEL													
X-axis	mm	400		X-axis	mm	400	600	750	700	X-axis	mm	600	1000
Y-axis	mm	350		Y-axis	mm	400	400	450	500	Y-axis	mm	550	600
Z-axis	mm	350		Z-axis	mm	400	400	500	500	Z-axis	mm	420	480
Spindle noes to table	mm	100-450		Spindle noes to table	mm	100-500	100-500	120-620	120-620	Spindle noes to table	mm	100-520	120-600
The spindle center to table surface	mm	50-400		Distance between spindle center & Column slideway	mm	550	550	600	680	Distance between spindle center & column slideway	mm	680	910
Max. size	mm	Ø320		SPAN									
TABLE													
Size	mm	320x320		X-axis span / width	mm	260/ 30	260/ 30	340/ 35	325/ 35	X-axis span / width	mm	340/ 35	325/ 35
Min. Indexing degree	deg	0.001°		Y-axis span / width	mm	500/ 35	500/ 35	605/ 45	650/ 45	Y-axis span / width	mm	605/ 45	650/ 45
Maximun table load	kgs	300		Z-axis span / width	mm	334/ 35	334/ 35	450/ 45	412/ 45	Z-axis span / width	mm	450/ 45	450/ 45
Table exchange time (with apc)	sec	7 (with APC)		SCREW									
The number of table (with apc)		OPT.2 (with APC)		X / Y / Z size	mm	Ø36	Ø36	Ø40	Ø40	X / Y / Z size	mm	Ø40	Ø40
SPINDLE													
Spindle taper		BT40		Pitch	mm	12	12	12	12	Pitch	mm	12	12
Spindle rpm	rpm	10000		TABLE									
Spindle bearing dia.	mm	65		Size	mm	400x320	560x400	720x400	700 x 500	Size	mm		
Spindle transmission		DDS		Max. table load	kgs	200x2	200x2	200x2	250x2	Max. table load	kgs		
FEED RATE													
Rapid feed rate of X / Y / Z	m/min	48		SPINDLE									
Cutting feed rate	m/min	1~10		Spindle speed	rpm	8000/10000	8000/10000	8000/10000	8000/10000	Spindle speed	rpm	35~10000	35~10000
X/Y/Z Ballscrew specification		Ø40		Transmission of spindle	type	Belt / DDS	Belt / DDS	Belt / DDS	Belt / DDS	Transmission of spindle	type	DDS	DDS
X/Y/X Guideway specification		45/35/35		Spindle motor	kw	5.5 / 7.5	5.5 / 7.5	7.5 / 11	7.5 / 11	Spindle motor	kw	7.5/11	7.5/11
ATC													
ATC Type		16		X / Y / Z Axis servo motor	kw	1.5 / 1.5 / 2	1.5 / 1.5 / 2	2 / 2 / 3	2 / 2 / 2	X / Y / Z Axis servo motor	kw	2/2/3.5	2/2/3.5
Tool capacity	mm	85		Spindle nose taper	type	BT40	BT40	BT40	BT40	Spindle nose taper	type	BT40	BT40
Max.tool weight	mm	115		Bearing diameter at front first of spindle	mm	60	60	70	70	Bearing diameter at front first of spindle	mm	70	70
Max.tool lenght	mm	180		FEED RATE									
Max.tool diameter	kgs	7		Rapid feed rate of X / Y / Z	m/min	30/30/24	30/30/24	30/30/24	30/30/24	Rapid feed rate of X / Y / Z	m/min	30/30/24	30/30/24
Reciprocating time	sec	1.2		Cutting feed rate	m/min	1-10	1-10	1-10	1-10	Cutting feed rate	m/min	1-10	1-10
Tool change time	sec	1.5		ATC									
MOTOR													
Spindle motor (continuous / 30 minutes nominal)	kw	5.5/7.5		ATC Type		Arm Type	Arm Type	Arm Type	Arm Type	ATC Type		Arm Type	Arm Type
X -axis servo motor	kw	4		Tool capacity	pcs	24	24	24	24	Tool capacity	pcs	24	24
Y-axis servo motor	kw	4		Max. tool weight	kgs	7	7	7	7	Max. tool weight	kgs	7	7
Z-axis servo motor	kw	3		Max. tool lenght	mm	250	250	250	250	Max. tool lenght	mm	250	250
B-axis servo motor	kw	2		Max. tool diameter	mm	75	75	80	80 / 140	Max. tool diameter	mm	80/140	80/140
Electricity capacity	KVA	40		Reciprocating time / Tool change time	sec	2.5 / 1.8	2.5 / 1.8	2.5 / 1.8	2.5 / 1.8	Reciprocating time/Tool change time	sec	2.5/1.8	2.5/1.8
Cutting water capacity	L	220		APC									
Occupied space (L x W x H)	mm	3500x2520x2500		Changing time	sec	7	7	7	7	Air source	kgs/cm ²	6	6
Machine weight	kgs	5800		Servo motor	kw	2	2	2	2	Occupied space(L x W x H)	mm	3130x2100x2650	3400x2200x2760
				Indexing	angle	180	180	180	180	Machine weight	kgs	6000	7000
				Air source	kgs/cm ²	6	6	6	6				
				Occupied space(L x W x H)	mm	2400x3000x2850	2400x3000x2850	2400x3000x2980	2520x4000x3000				
				Machine weight	kgs	5000	5500	6000	6800				

STANDARD ACCESSORIES

- Carousel type
- Full-chip enclosures
- Spindle air blast system
- Spindle BT40 8,000 rpm
- Heat exchange in control box
- Working light
- Coolant pump
- Operator indication lamp
- Spindle arbor cleaning
- Tool box

OPTIONAL ACCESSORIES

- Spindle automatic oiling device
- Arm type tool changer
- 4th axis NC rotary table
- Chip conveyor
- Spindle speed 10,000 / 12,000 rpm
- Direct drive spindle 10,000 / 12,000 / 15,000 rpm
- Built-in 16,000 / 24,000 / 30,000 rpm
- FANUC 0I-MD controller
- Transformer
- PL waterproof fluorescent worklight
- BED shower
- Optical scale

• Design and specifications are subjective to change without prior notice.