

## OPTIMAL STRUCTURE DESIGN High Rigidity! Lifetime Stability!

The major structures are manufactured from Meehanite cast iron, stress relieved and combined with scientific rib reinforcement to ensure deformation-free operations. Increased width on the column bottom with box-type structure provides maximum stability especially when performing high speed cutting.

### SPINDLE CASTING IRON

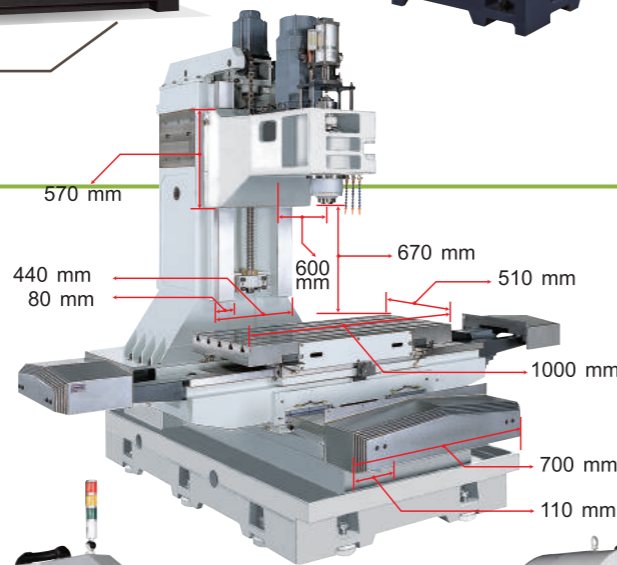
With Box-Like structure, P4 level spindle bearing. The spindle holder processed with SCM4 iron, high rigidity, and heavy-cutting.

### CONSTRUCTION

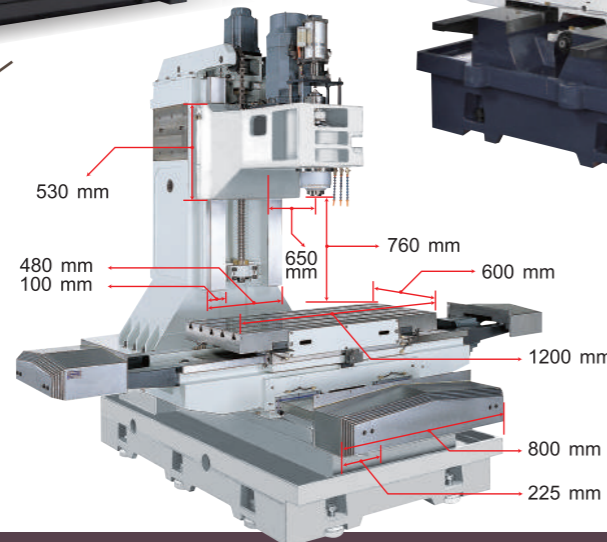
With the world certificated Meehanite casting iron, inner beam consolidated, all processing through tempered, high stability, no deformed. The hardness degree should reach  $HRC52^{\circ} \pm 3^{\circ}$ , less concussion.



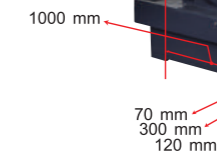
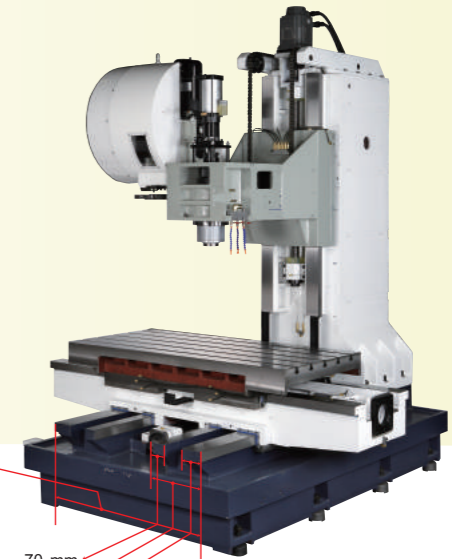
MVC-955



MVC-1160



MVC-1370



## RIGOROUS QUALITY EXAMINING

### HIGH SPEED SPINDLE DYNAMIC CHARACTERISTIC TEST

To the dynamic characteristic of the high-speed spindle under different rotational speeds, test proving, including dynamic equilibrium, vibration, the noise, and precision of high-speed gyration that rotate, etc., guarantee that the high-speed spindle gives play to the excellent characteristic.

### BALL BAR TESTING

- Three-dimensional spaces follow the ball bar testing, and adjust in best.
- Adopt strict German VDI3441 inspection norm.

### LASER INSPECTION

- Adopt strict German VDI3441 inspection norm.

### STANDARD MOLD CUTTING TEST

- Direct against customer's mold characteristic, each of products passes the standard mold setup cutting to guarantee that the goods quality.



MODEL		MVC-955	MVC-1160	MVC-1370
TRAVEL	X axis travel	900 mm	1100 mm	1300 mm
	Y axis travel	550 mm	600 mm	700 mm
	Z axis travel	530 mm	610 mm	700 mm
DISTANCE	Spindle center to colum	600 mm	650 mm	760 mm
	Spindle nose to table surface	150 - 680 mm	150 - 760 mm	150 - 850 mm
TABLE	Table work area	1000 x 510 mm	1200 x 600 mm	1400 x 700 mm
	Dimension of T-slot	CD 100 x 18 x 5T mm		CD 125 x 18 x 5T
	Max. Table load	600 kg	800 kg	1200 kg
SPINDLE	Spindle taper / Bore diameter	BT40	BT40 / BT50	
	Driving method	Belt		
	Spindle motor-cont / 30 min	15 HP (Mitsubishi or Fanuc)		20 HP (Mitsubishi or Fanuc)
	Spindle speed	8000 rpm	8000 / 6000 rpm	
FEED RATE	Rapid feed rate - X x Y x Z	20 x 20 x 15 m/min		
	X x Y x Z ball screw	40 x 10B2 (dia. x pitch)	40 x 12B2 (dia. x pitch)	50 x 12B2 (dia. x pitch)
	Motor (XYZ)	2.5 / 2.5 / 3.5 kW		3.5 / 3.5 / 3.5 kW
TOOLS	Max. tool lenth	250 mm (9.8") x 89 mm (3.5")		
	Max. tool weight	6 kg / 13.2 lbs		
	Number of tools	20 / 24 pcs		
	Tool exchaning time	10 / 4 sec.		
	Tool selection method	Bi-direction & Min Path		
MACHINE	Min. / Max. air pressure	4 kg / 6 cm <sup>2</sup>		
	Coolant tank capacity	250 ℓ	380 ℓ	450 ℓ
	Net weight	7000 kg	8000 kg	10400 kg
	Gross weight	7300 kg	8300 kg	11000 kg
	Floor space requirement (L x W x H)	261 x 210 x 235 cm	300 x 219 x 246 cm	340 x 248 x 280 cm
	Packing size (L x W x H)	265 x 228 x 245 cm	310 x 228 x 250 cm	700 x 228 x 250cm / 385 x 310 x 315cm
	Container	40" HQ	40" HQ	40"HQ split into 2 pallets / 20"FR

\* Specification Subject to change without notice.

### STANDARD ACCESSORIES

- ↳ Alarm Light
- ↳ Remote MPG
- ↳ Cutting Liquid Defector
- ↳ Handle Air Blast Device
- ↳ Flexible Cover
- ↳ BT40 Spindle
- ↳ Level Adjusting Bolt and Pads
- ↳ Handle Flush Device
- ↳ Mitsubishi M70 Controller
- ↳ Spindle Oil Cooler
- ↳ Tool Box and Operating Manual
- ↳ Heat Exchanger
- ↳ Full Enclosure
- ↳ Rigid Tapping
- ↳ Flood Coolant
- ↳ Rail Auto Lube System
- ↳ RS232 Interface
- ↳ A.I.C.C (A I CONTOUR CONTROL)
- ↳ Auto Power Off System
- ↳ Quartz Light
- ↳ Spindle Auto Air Blast Device

### OPTIONAL ACCESSORIES for MVC-955 / 1160 / 1370

- ↳ Transformer
- ↳ Tnespction Inspection Probe Kits
- ↳ Chip Conveyor
- ↳ Spindle (direct type)
- ↳ A.T.C. (Arm Type) 24 Tools
- ↳ A.T.C. (Armless Type) 20 Tools
- ↳ BT50 Spindle (1160 / 1370)
- ↳ Coolant Thru Spindle
- ↳ Fanuc/Siemens/Fagor Controller
- ↳ 4th/5th Axis Rotary Table Tailstock and Chuck



#### TOOL PROBE

- Adopt Japan METROL T24E brand.
- Auto-measure tool length and effectively set tools and test.



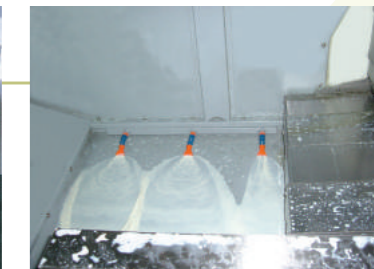
#### SPINDLE SPLASH RING

- The spindle splash ring is available only for models with arm-type magazine. The device not only effectively removes chips on workpiece but also increases workpiece cooling efficiency.



#### 4<sup>TH</sup> CNC ROTARY TABLE

- High positioning accuracy.
- Stability during cutting.



#### COOLANT FLUSHING DEVICE

- Three coolant nozzles are provided on both sides of the table featuring high pressure flushing to remove chips from the table.



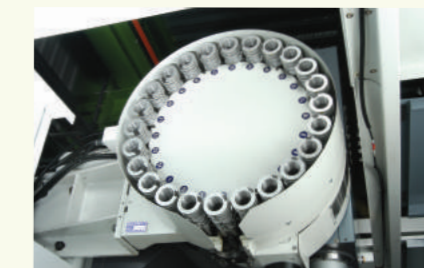
#### OIL SKIMMER

- Assembled upon cutting fluid tank.
- It can separate slick of cutting fluid.



#### COOLANT THRU SPINDLE

- Effectively clean chips while deep bore processed.
- Effectively improve the process efficiently.



#### ARM TYPE MAGAZINE

- The magazine is driven by a precision cam for rapid and stable tool change motion. Tool loading capacity provides 20 or 24 tools to choose from. Bi-directional random tool selection provides quick tool changing that reduces non-cutting time.



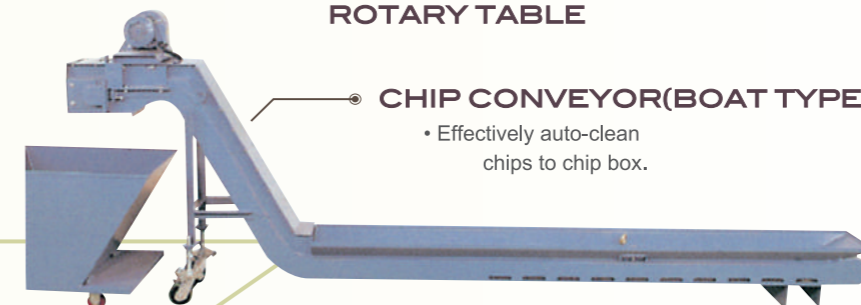
#### 4<sup>TH</sup>/5<sup>TH</sup> CNC ROTARY TABLE

- The 4<sup>th</sup>/5<sup>th</sup> CNC rotary table features high positioning accuracy and maximum stability during cutting. It is ideal for various types of workpiece machining.



#### CAROUSEL TYPE MAGAZINE

- The carousel type magazine is standard equipment. It carries 16 tools for various types of machining applications. Fixed type tool selection for quick tool changing that reduces non-cutting time.

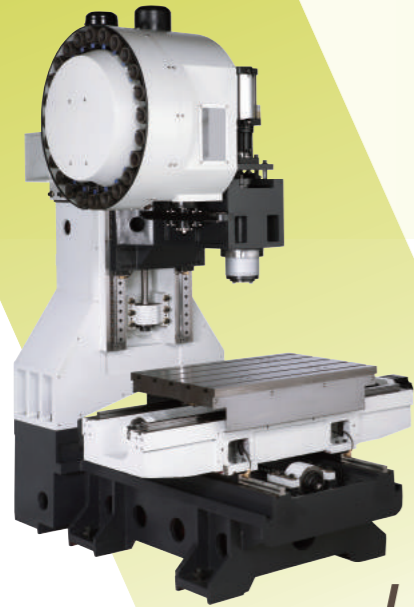


#### CHIP CONVEYOR (BOAT TYPE)

- Effectively auto-clean chips to chip box.

# LINEAR WAY

## VERTICAL MACHINING CENTER



**LVC-755**



**LVC-860**



	MODEL	LVC-755	LVC-860	LVC-1160	LVC-1370
TRAVEL	X axis travel	700 mm	800 mm	1100 mm	1300 mm
	Y axis travel	510 mm	600 mm	600 mm	700mm (/650mm)
	Z axis travel	550 mm	600 mm	600 mm	700 mm
DISTANCE	Spindle nose to table surface	130 ~ 630 mm	150 ~ 750 mm	150 ~ 750 mm	150 ~ 850 mm
	Spindle center nose to colum	600 mm	600 mm	600 mm	700 mm
LINEAR WAY	X axis	RGW30	RGW35	RGW35	RGW45
	Y axis	RGW30	RGW45	RGW45	RGW45
	Z axis	RGW35	RGW45	RGW45	RGW45
BALL SCREW	X axis	R32XP12	R40XP12	R40XP12	R50XP12
	Y axis	R32XP12	R40XP12	R40XP12	R50XP12
	Z axis	R32XP12	R40XP12	R40XP12	R50XP12
TABLE	Table work area	700 x 500 mm	1000 x 600 mm	1200 x 600 mm	1500 x 700 mm
	Max. Table load	350 kg	400 kg	600 kg	700 kg
	Dimension of T-slot	CD100 x 16 x 5T	CD100 x 18 x 5T	CD100 x 18 x 5T	CD100 x 18 x 7T
SPINDLE	Bore diameter	BT40			
	Spindle taper	ISO40			
	Spindle motor	10 HP (Mitsubishi or Fanuc)	15 HP (Mitsubishi or Fanuc)	15 HP (Mitsubishi or Fanuc)	15 HP (Mitsubishi or Fanuc)
	Spindle diameter	Ø65 mm	Ø70 mm	Ø70 mm	Ø70 mm
SPINDLE SPEED	Belt	10000 RPM			
	Directly (OP)	10000/12000/15000RPM			
FEED RATE	Rapid feed rate (X / Y / Z)	36 / 36 / 24			
	Motor (X / Y / Z)	2.0 / 2.0 / 3.0 KW	2.5 / 2.5 / 3.5 KW	2.5 / 2.5 / 3.5 KW	3.5 / 3.5 / 3.5 KW
TOOLS	Max. tool length	250			
	Max. tool weight	6 kg / 13.2 lbs			
	Number of tools	24 pcs			
	Tool exchanging time	10 / 4 sec.			
	Min / Max. air pressure	4 kg / 6 cm <sup>2</sup>			
MACHINE	Coolant tank capacity	150 L	250 L	300 L	300 L
	Net weight	4200 kg	5200 kg	6200 kg	8500 kg
	Gross weight	4500 kg	5500 kg	6500 kg	9000 kg
	Floor space requirement (L x W x H)	210 x 228 x 235 cm	261 x 210 x 235 cm	300 x 219 x 246 cm	300 x 219 x 246 cm
	Packing size (L x W x H)	240 x 228 x 245 cm	265 x 228 x 245 cm	345 x 228 x 250 cm	700 x 228 x 250cm / 385 x 310 x 315cm
	Container	40" HQ	40" HQ	40" HQ	40"HQ split into 2 pallets / 20"FR

\* Specification Subject to change without notice.

### STANDARD ACCESSORIES

- Alarm Light
- Spindle Auto Air Blast Device
- Handle Air Blast Device
- Cutting Liquid Defector
- Flexible Cover
- Remote MPG
- Handle Flush Device
- Tool Box and Operating Manual
- Mitsubishi M70 Controller
- BT40 Spindle
- Heat Exchanger
- Level Adjusting Bolt and Pads
- Full Enclosure
- Spindle Oil Cooler
- Flood Coolant
- A.I.C.C
- Rail Auto Lube System
- Rigid Tapping
- Auto Power Off System
- RS232 Interface

### OPTIONAL ACCESSORIES

- Transformer
- FANUC Controller
- Tnesption Inspection Probe Kits
- Spindle (direct type)
- Chip Conveyor
- A.T.C. (Armless Type) 20 Tools
- 4th/5th Axis Rotary Table Tailstock and Chuck
- Coolant Thru Spindle
- A.T.C. (Arm Type) 24 Tools



# GEARHEAD

MODEL		MVC-1160G	MVC-1370G	MVC-1690G	MVC-1890G
TRAVEL	X axis travel	1100 mm	1300 mm	1600 mm	1800 mm
	Y axis travel	600 mm	700 mm	900 mm	900 mm
	Z axis travel	610 mm	700 mm	800 mm	800 mm
DISTANCE	Spindle nose to table surface	650 mm	760 mm	880 mm	880 mm
	Spindle center nose to colum	150 - 760 mm	150 - 850 mm	150 - 950 mm	150 - 950 mm
TABLE	Table work area	1200 x 600 mm	1400 x 700 mm	1800 x 810 mm	2200 x 810 mm
	Dimension of T-slot	CD 100 x 18 x 5T	CD 125 x 18 x 5T	CD 125 x 18 x 7T	CD 125 x 18 x 7T
	Max. Table load	800 kg	1200 kg	2000 kg	2000 kg
SPINDLE	Spindle taper / Bore diameter	BT50			
	Driving method	Gear Head			
	Spindle motor-cont / 30 min	20 HP (Mitsubishi or Fanuc)	20 HP (Mitsubishi or Fanuc)	25 HP (Mitsubishi or Fanuc)	25 HP (Mitsubishi or Fanuc)
	Spindle speed	6000 rpm	6000 rpm	6000 rpm	6000 rpm
FEED RATE	Rapid feed rate - X / Y / Z	20 x 20 x 18 m/min	20 x 20 x 18 m/min	20 x 20 x 15 m/min	20 x 20 x 15 m/min
	X / Y / Z ball screw	40 x 12B2 (dia. x pitch)	50 x 12B2 (dia. x pitch)	50 x 12B2 (dia. x pitch)	50 x 12B2 (dia. x pitch)
TOOLS	Max. tool length	350 x 114.8 mm	350 x 114.8 mm	250 mm (9.8") x 89 mm (3.5")	250 mm (9.8") x 89 mm (3.5")
	Max. tool weight	15 kg / 33 lbs			
	Number of tools	24 pcs			
	Tool exchanging time	Bi-direction & Min Path			
GEAR HEAD	Gear ratio	1 : 4.2			
	Bearings front	NN3018 (Ø90)			
	Bearings rear	NN3012 (Ø60)	NN3012 (Ø60)	NN3016 (Ø80)	NN3016 (Ø80)
	Bearings lubrication	Grease			
	Preload	Rigid			
	Clamping force	2000 kg	2000 kg	2400 kg	2400 kg
	Coolant	Oil			
	Coolant requirement	1500 keal/h			
MACHINE	Min / Max. air pressure	4 kg / 6 cm <sup>2</sup>			
	Coolant tank capacity	380 ℓ	450 ℓ	520 ℓ	520 ℓ
	Net weight	8500 kg	11000 kg	18000 kg	18200 kg
	Gross weight	8900 kg	12000 kg	18500 kg	18700 kg
	Floor space requirement (L x W x H)	300 x 219 x 246 cm	340 x 248 x 280 cm	420 x 270 x 320 cm	420 x 270 x 320 cm
	Packing size (L x W x H)	310 x 228 x 250 cm	700 x 228 x 250cm 385 x 310 x 315cm	538 x 391 x 375 cm	570 x 391 x 375 cm
	Container	40" HQ	40"HQ split into 2 pallets	20"FR	1 x 20" FR

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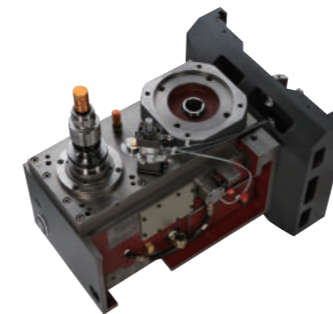
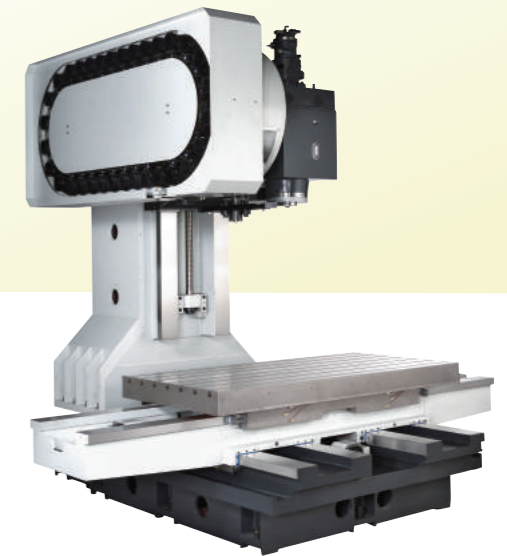
**MVC-1160G**

### HEAVY DUTY SPINDLE

The spindle is supported with heavy duty roller bearings with large contact areas that easily handle large axial and radial loads, while computer modeling helps determine bearing locations for maximum spindle stiffness. The 2-speed gearbox coupled with powerful spindle motor offers unrivaled metal removal rates. Oil cooling to the spindle and gearbox maintain low bearing temperature for extended spindle life.



**MVC-1690G**



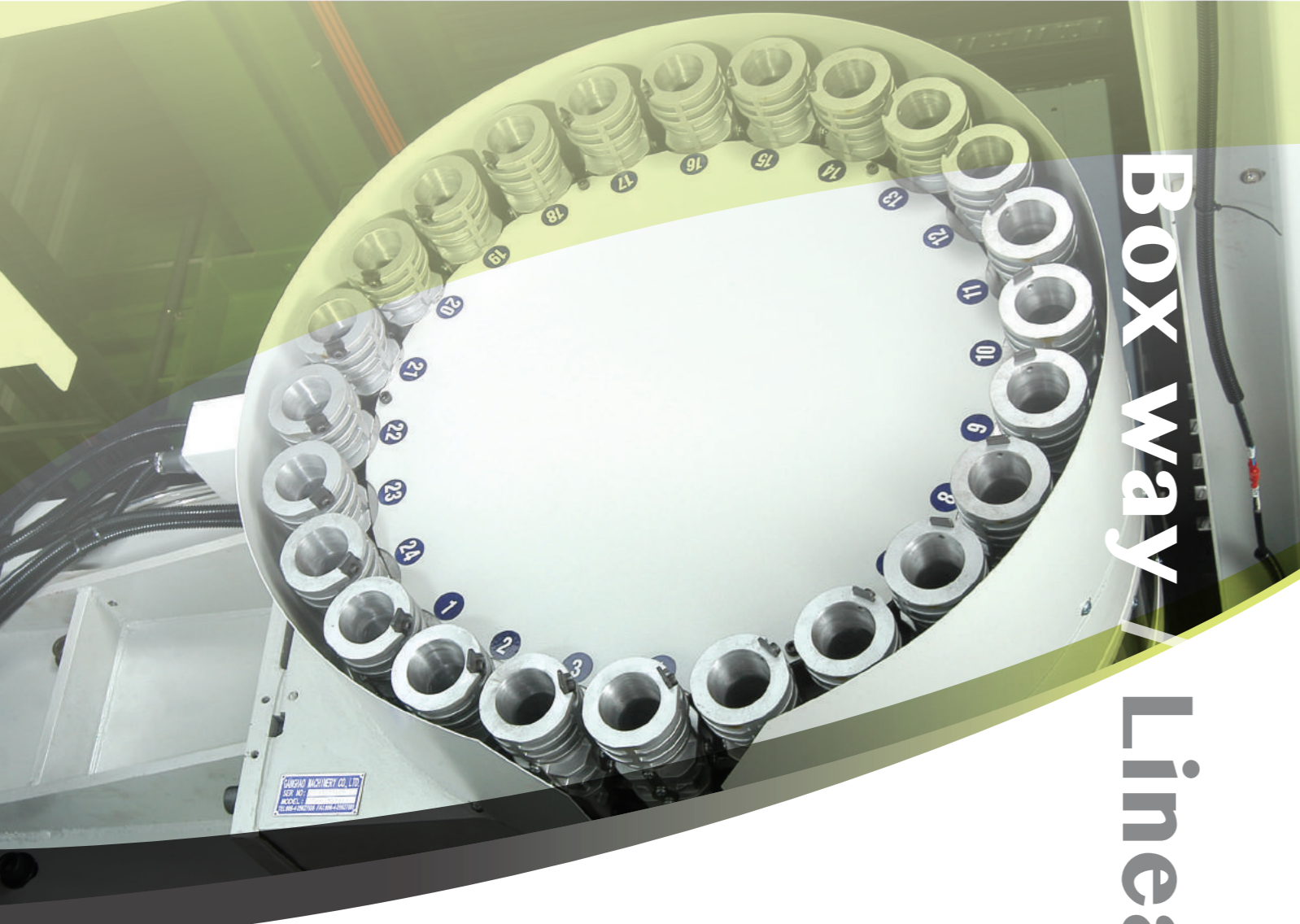
### STANDARD ACCESSORIES

- Alarm Light
- Blast Device
- RS232 Interface
- Handle Air Blast Device
- Flexible Cover
- Remote MPG
- Quartz Light
- Handle Flush Device
- Full Enclosure
- BT50 Spindle
- Cutting Liquid Defector
- Heat Exchanger
- Rail Auto Lube System
- Spindle Oil Cooler
- Tool Box and Operating Manual
- Flood Coolant
- Auto Power Off System
- Rigid Tapping
- Level Adjusting Bolt and Pads
- Spindle Auto Air

### OPTIONAL ACCESSORIES

- Transformer
- Chip Conveyor
- Coolant Thru Spindle
- Tnesption Inspection Probe Kits
- FANUC α12 Controller
- Chain type 30/32 tools for 1690G or 1890G
- 4th/5th Axis Rotary Table Tailstock and Chuck





Box way

Linear way



Elaboration / Pinpoint / Excellence



**JIANN SHENG MACHINERY & ELECTRIC INDUSTRIAL CO.,LTD.**

NO.8, 12TH ROAD, INDUSTRIAL PARK, TAICHUNG, TAIWAN, R.O.C.

TEL: + 886-4-23593717

FAX: + 886-4-23590920

E-mail: [jsedm@ms11.hinet.net](mailto:jsedm@ms11.hinet.net)

<http://www.jsedm.com>

MSN: [jsedmtw@hotmail.com](mailto:jsedmtw@hotmail.com)

SKYPE: [jsedmtw](https://www.skype.com/user/jsedmtw)

**OOO "EDM Technologies Co., Ltd."**

С-Петербург, 24 линия В.О., д.15/2, офис 216.

Почта: 191123, Санкт-Петербург, а/я 199.

Тел.: +7(812) 715-2773, 716-0009.

Тел.: +7(812) 927-1009, 925-2773.

Факс: +7(812) 335-0323.

<http://www.jsedm.ru>



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