

PALMARY PRODUCTS

- Centerless Grinder
- Cylindrical Grinder
- Internal Grinder
- Vertical Grinder
- Surface Grinder
- Special Purpose Grinder

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CNC VERTICAL GRINDER

VIG CNC series



AFFORDABLE GRINDERS (U.S.A.)
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1709N1

PALMARY
PALMARY MACHINERY CO., LTD.

CONCERTO OF HIGH ACCURACIES AND PRODUCTION

OUTSTANDING FEATURES

1. No vibration and run-out caused by self-weights of the workpieces and chucks that may affect grinding accuracy.
2. Irregularly shaped workpieces are easy to chuck.
3. Non-symmetric part between inside hole and external shape can also proceed inside hole and end face grinding process.

HONEYCOMB TYPE MACHINE STRUCTURE

1. Honeycomb type machine structure assures the best possible rigidity and stability. The machine bed is manufactured from high-quality Meehanite cast iron, heat treated and stress relieved for outstanding stability and without deformation.
2. X & Z axes are equipped with special cross roller type linear guideways, featuring extra heavy loading capability.

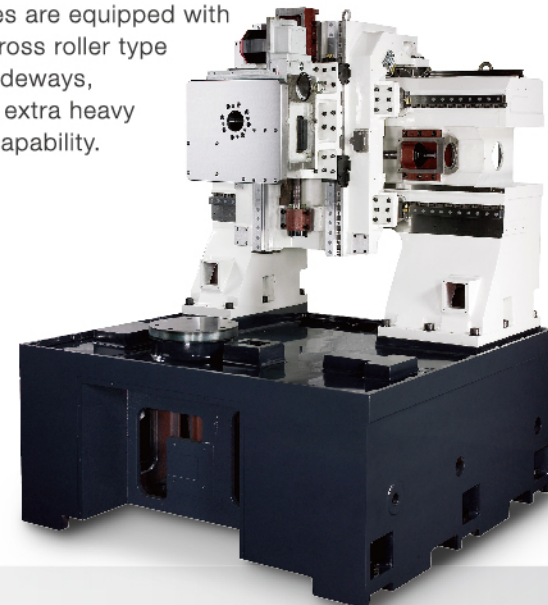


[VIG-2015E]

2

3

1



CNC CONTROLLER

- The Mitsubishi M70 controller with a user-friendly control panel frame that allows operator to easily choose different grinding modes.
- FANUC controller is optional.



BUILT-IN TYPE HIGH SPEED WHEEL SPINDLE

- 10000~45000 r.p.m. spindle for widely internal diameter range use.
- The spindle runs in ceramic angular contact ball bearings, with outstanding radial and axial loading capability, low heat growth at high speed operation and has a long service life.



BUILT-IN TYPE EXTERNAL WHEEL SPINDLE

- 2000 r.p.m. Japanese brand spindle for standard wheel O.D. 355 mm.
- For CBN wheel (optional), the speed could change to 4500 r.p.m..
- For model VIG-2015E only.

SPECIFICATIONS

VIG-2015 / 2015E

MODEL	VIG-2015 / VIG-2015E
Capacity	Internal grinding dia. (I.D.: length= 1:3) Ø14~Ø200 mm
	External grinding dia. Max. Ø200 mm
	Max. grinding length 150 mm
	Max. workpiece swing Ø300 mm
	Max. workpiece length 150 mm
	Max. workpiece loading 100 kg
Traverse	X axis longitudinal traverse 500 mm
	Z axis vertical traverse 400 mm
Internal Grinding Wheel	Internal grinding wheel speed 10000~45000 r.p.m.
	Internal grinding wheel diameter Ø10~Ø95 mm
	Linear velocity 33 M/sec.
External Grinding Wheel (2015E only)	External grinding wheel speed 2000 r.p.m.
	O.D. x Width x I.D. Ø355 x Ø50 x 127 mm
	Linear velocity 33 M/sec.
Work Spindle	Speed 40~800 r.p.m.
	Chuck size 200 mm
Infeed	X / Z axis rapid traverse 6 M/min.
	X / Z axis cutting feed rate 0~6000 mm/min.
	X / Z axis min. setting unit 0.001 (0.0001) mm
	X / Z axis slide ways Linear ways
	Work spindle motor 3.5 kw
Motor	Internal grinding wheel motor 3.0 kw Torque: S1= 1.1 Nm, S6= 1.5 Nm
	External grinding wheel motor (2015E only) 3.0 kw Torque: S1= 15 Nm, S6= 20 Nm
	Coolant pump motor 0.75 kw
	Hydraulic pump motor 0.75 kw
	Lubrication system motor 20 w
	Coolant tank 140 L
Tank Capacity	Hydraulic oil tank 20 L
	Spindle oil coolant tank 15 L
Contorller	Mitsubishi
Machine Dimensions	L x W x H 2300 x 1900 x 2400 mm
	Net weight 7000 kg

• The mentioned specifications & dimensions are subject to change without notice.

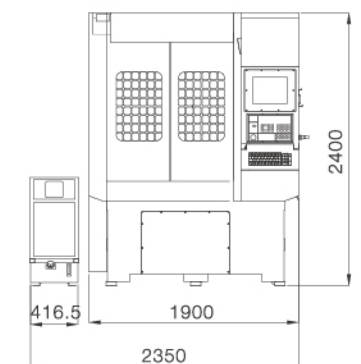
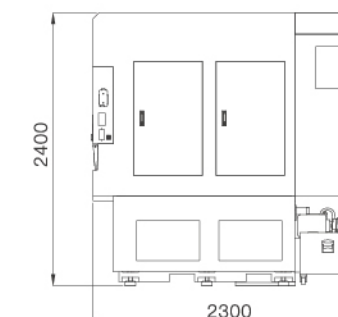
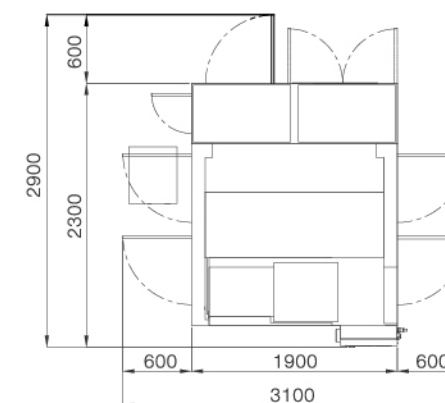
STANDARD ACCESSORIES

- Fully enclosed splash guard ---1
- CNC controller (Mitsubishi M70 with PC-NC conversation software) ---1
- Diamond dresser ---1
- Hydraulic system ---1
- Coolant system ---1
- Electric system ---1
- Built-in type grinding wheel spindle (10000~45000 r.p.m.) ---1
- Built-in type grinding wheel spindle (2000 r.p.m.) (VIG-2015E only) ---1
- Wheel spindle oil cooler ---1
- X & Z axes linear scale ---2
- Tools and tool box ---1

OPTIONAL ACCESSORIES

- 3-jaw chuck
- Rotary type dressing device
- Soft jaw turning device
- Oil mist collector
- Magnetic coolant separator
- Paper filter
- Auto. measuring gauge
- Current gap control

MACHINE DIMENSIONS



HONEYCOMB TUBULAR TYPE MACHINE STRUCTURE

1. High Rigidity Machine Bed

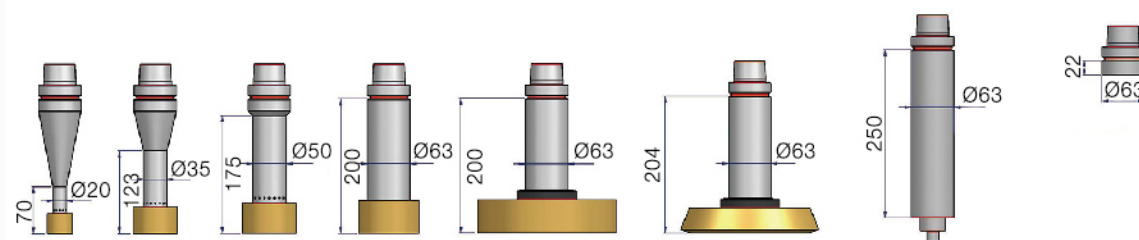
- The design of honeycomb tubular type machine bed and cross guideway structure for improving the higher rigidity and stability.
- 2. High Grinding Efficiency**
- For end face grinding application, the wheel spindle can swivel to 22.5 degrees for easy grinding.
 - Equipped with 6 no. ATC (Auto Tool Change) system.
 - The high rigidity HSK tool holder is used in this model.
- 3. Space Saving**
- Reduced machine layout for saving more space.
 - The round rotating dressing device saving more interior space.
- 4. High Precision**
- The coolant flow has an isolation design from the machine bed and can reduce the heat deformation and dirt contamination on the bed.
 - The standard accessories 2 axes full-close loop digital linear scales equipped.
 - The diamond roller dressing device is optional.
- 5. High Rigidity Work Spindle**
- The work spindle uses high accuracy bearings in the turn table.

WHEEL DRESSING DEVICE

- The round rotating dressing device save more interior space.

Grinding Wheel Type

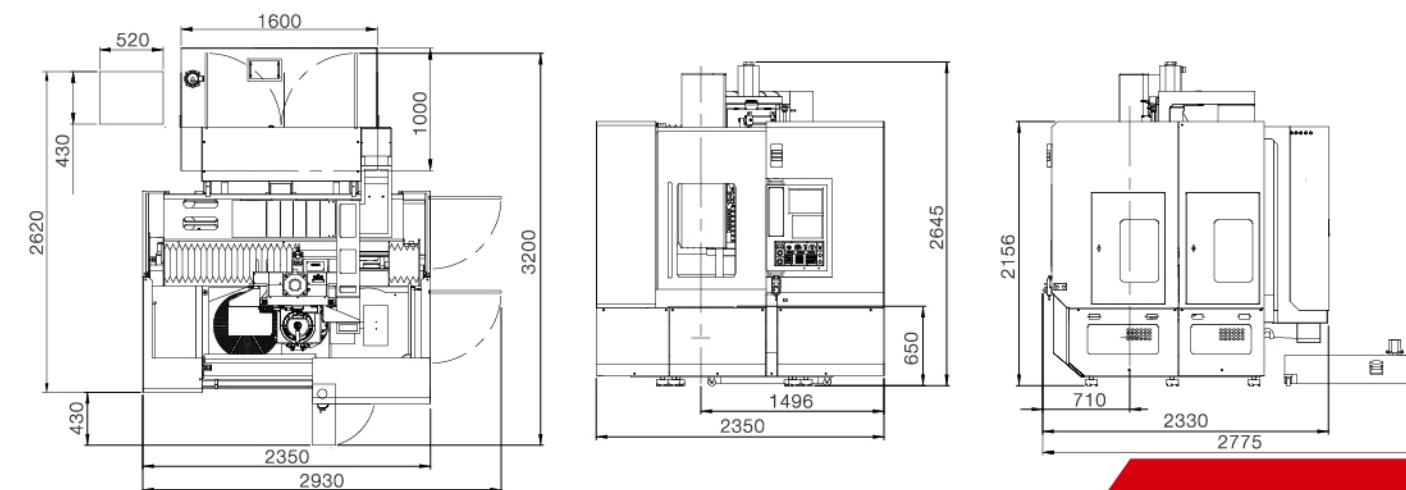
**HSK-E63 To
Holder**

**VIG-50**

MODEL		VIG-50
Capacity	O.D. grinding range	Ø38~500 mm
	Max. I.D. grinding length	~Ø199: 200 ; Ø200~: 350 mm
	Max. O.D. grinding length	350 mm
	Spindle Swivel dia.	Ø550 mm
	Max. workpiece length	410 mm
	Max. workpiece load	500 kg
	Distance between spindle upper side to G.W.	500 mm
	G.W. speed	2700~15000 r.p.m.
	G.W. diameter	25~205 mm
	Max. linear speed	2700 m/min.
Work Spindle	Tool holder type	HSK-E63
	Work table size	Ø550 mm
	Work spindle speed (variable speed)	20~220 r.p.m.
Traverse	X axis traverse	970 mm
	X axis speed	0~20 mm
	X axis MPG each graduation movement	Ø0.0001, Ø0.001, Ø0.05 mm
	X axis min. setting unit	Ø0.0001 mm
	Z axis traverse	550 mm
	Z axis speed	0~20 m/min.
	Z axis MPG each graduation movement	0.0001, 0.001, 0.05 mm
	Z axis min. setting unit	0.0001 mm
	Work spindle	5.5 kw
	Grinding wheel spindle	15 kw
	X axis	4 kw
	Y axis	4 kw
Motor	B axis (ATC)	0.75 kw
	Coolant pump (cleanse bed & wheel spindle high pressure)	0.375 & 2.1 kw
	Hydraulic pump	0.75 kw
Power	Electricity	30 KVA
	Air (work pressure & useful discharge)	0.7 Mpa & 1800 NL/min
Tank Capacity	Coolant tank	600 L
	Oil tank (hydraulic system)	30 L
	Oil tank (spindle change)	12 L
	Oil tank (spindle cooler)	45 L
Control		FANUC
Machine Dimensions	L x W x H	2350 x 3300 x 2755 mm
	Machine weight	7000 kg

- The mentioned specifications & dimensions are subject to change without notice.

MACHINE DIMENSIONS



STANDARD ACCESSORIES

- Fully enclosed splash guard ---1
- FANUC CNC controller (included current gap control function) ---1
- Grinding wheel ---4
- Single point diamond dresser (with 3 no. diamond dressing pen) ---1
- Hydraulic system ---1
- Coolant system ---1
- Electric system ---1
- Full-close loop digital scale (for X & Z axes) ---2
- Wheel spindle (2700~15000 r.p.m. variable speed) ---1
- Wheel oil cooler system ---1
- ATC system (auto. tool Change system, max. 6 no. wheels) ---1
- Standard HSK-E63 tool ---4
- Wheel spindle hydraulic change tool system ---1
- Ø550 face plate ---1
- Wheel balancing stand ---1
- Tools & tool box ---1

OPTIONAL ACCESSORIES

- Ø500 magnetic chuck with demagnetizer
- Special chuck (individual design)
- Rotary type dressing device
- Magnetic coolant separator
- Paper filter
- Hydrocyclone coolant separator
- Oil cooler

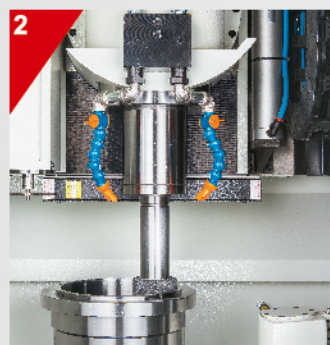
[VIG-50]



CNC CONTROLLER

- FANUC control system

- FANUC control system for widely use in kinds of different grinding application.



**BUILT-IN TYPE
WHEEL SPINDLE**

- Variable speed range from 2700 to 15000 r.p.m.
- The forced spindle lubrication system and oil-cooling system bring the higher stability.



ANGULAR WHEEL

- For end face grinding application, the wheel spindle could swivel to 22.5 degrees for easily grinding.



AUTO. TOOL CHANGE SYSTEM (ATC)

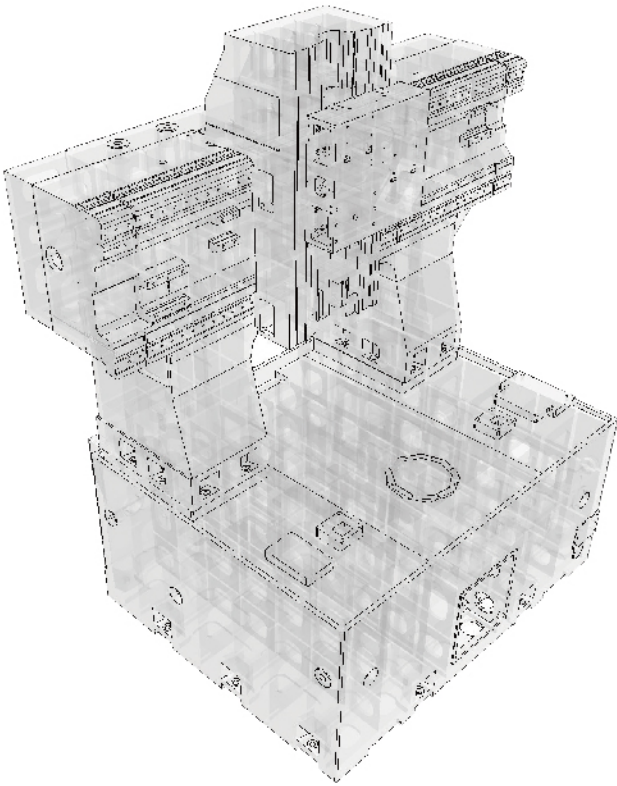
- Equipped max. 6 no. grinding wheels for different diameter or accuracy requirement.
- The tool holder is HSK-E63 type for higher rigidity.



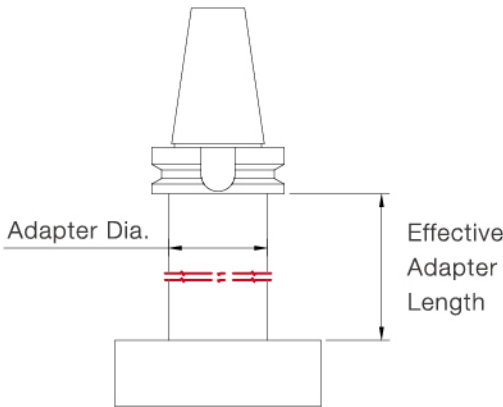
WHEEL DRESSING DEVICE

- The round rotating dressing device save more interior space.

PRECISION
PERFECTION
EXCELLENCE

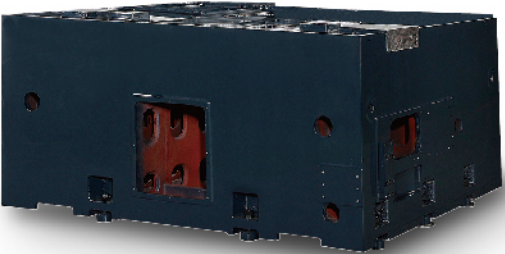


BBT. 50 TOOL HOLDER



HONEYCOMB TYPE
MACHINE STRUCTURE

- 1. Honeycomb type machine structure assures the best possible rigidity and stability.
- 2. The machine structure is manufactured from high-quality Meehanite cast iron, heat treated and stress relieved for outstanding stability and without deformaiton.
- 3. X & Z axes are equipped with special cross roller type linear guideways, featuring extra heavy loading capability.



Grinding Wheel Size

Adapter Dia. (mm)	Effective Adapter Length (mm)	Wheel Size	Min. Hole Dia. x Max. x Depth
Ø55	175	Ø80 x 45	Ø90 x 200
		Ø90 x 45	Ø100 x 200
	250	Ø80 x 45	Ø90 x 275
Ø75	175	Ø90 x 45	Ø100 x 275
		Ø100 x 50	Ø110 x 205
	250	Ø125 x 50	Ø135 x 205
Ø85	225	Ø100 x 50	Ø110 x 280
		Ø125 x 50	Ø135 x 280
	300	Ø150 x 50	Ø160 x 255
Ø85	300	Ø200 x 50	Ø210 x 450
		Ø150 x 50	Ø160 x 330
Ø85	300	Ø200 x 50	Ø210 x 550

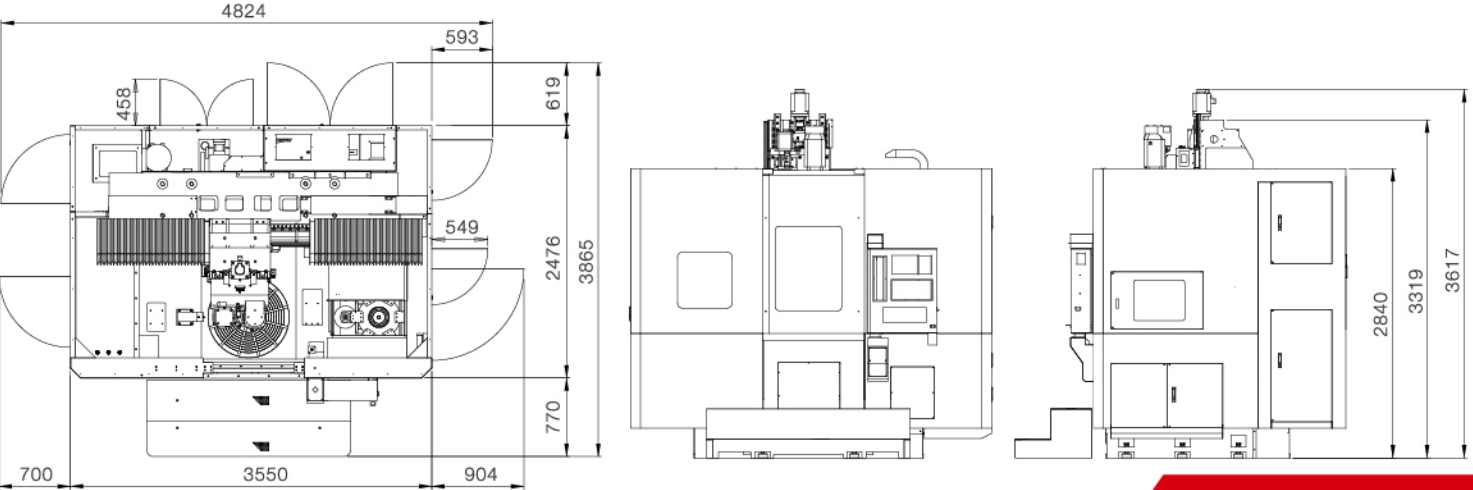
SPECIFICATIONS

VIG-8050

MODEL	VIG-8050
Capacity	Internal grinding range (I.D.: length= 1:3) Ø70~Ø700 mm
	Max. external grinding diameter Max. Ø700 mm
	Z axis max. external grinding length 500 mm
	Z axis max. internal grinding length Ø70~Ø270=325 mm
Traverse	Max. workpiece swivel Ø270~Ø700=500 mm
	Max. workpiece length Ø800 mm
	Max. workpiece load 600 mm (including clamping fixture)
	X axis longitudinal traverse 850 mm
Wheel Spindle	Z axis vertical traverse 1000 mm
	Z axis external grinding wheel spindle speed 650 mm
	Z axis external grinding wheel diameter 2000~10000 r.p.m.
	Z axis external grinding wheel nose hole type Ø100~Ø200 mm
Work Spindle	Z axis internal grinding wheel diameter BBT. 50
	Z axis internal grinding wheel spindle nose hole type Ø50~Ø150 mm
	Work spindle speed BBT. 50
	Work table size (face plate) 12~200 r.p.m.
Traverse	Screw nut size for t-groove Ø800 mm
	Work chuck size (optional) M20
	X, Z axis rapid traverse Ø450 mm (18")
	X, Z axis cutting speed 10 M/min.
ATC	X, Z micro movement / each turn 0~6000 mm/min.
	X, Z micro movement / each graduation 0.1, 1.0, 10 mm
	X, Z axis min. setting unit 0.001, 0.01, 0.1 mm
	X, Z axis guideway type 0.001 mm
Motor	Auto. wheel change number Linear guideway
	Storeroom type 6 pcs
	Wheel spindle nose tool holder type Round plate stand type
	Wheel auto change type BBT. 50
Tank Capacity	External griding wheel spindle motor X, Z axis servo movement
	Work spindle motor 7.5 kw
	Coolant pump motor 7.5 kw
	Dressing device hydraulic pump motor 2.6 kw
Controller	Lubrication system motor 0.75 kw
	Hydraulic oil tank 20 w
	Auto. electric lubricator tank 24 L
	Oil cooler tank 6 L
Machine Dimensions	Pneumatic tank 15 L
	Coolant tank 30 L
	Net weight 500 L
	3500 x 3200 x 3600 mm
Machine Dimensions	14000 kg

• The mentioned specifications & dimensions are subject to change without notice.

MACHINE DIMENSIONS



STANDARD ACCESSORIES

- Fully enclosed splash guard ---1
- CNC controller (Mitsubishi M70 with PC-NC conversation software) ---1
- Grinding wheel ---4
- Single point diamond dresser ---1
- Hydraulic oil lubricator system ---1
- Coolant system ---1
- Electric system ---1
- Full-close loop digital scale (X & Z axes) ---2
- Wheel spindle (2000~10000 r.p.m. variable speed) ---1
- Wheel spindle oil cooler system ---1
- ATC system (auto. tool change system, max. install 6 no. wheels) ---1
- Standard BBT. 50 tool ---4
- Ø800 mm face plate ---1
- Tools and tools box ---1

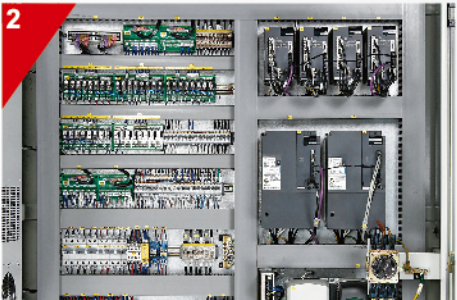
OPTIONAL ACCESSORIES

- BBT. 50 tool (individual design)
- Workpiece clamping fixture (individual design)
- Diamond roller dressing device
- Magnetic coolant separator
- Paper filter
- Hydrocyclone coolant separator
- Oil mist collector
- Touch probe gauge
- Current gap control



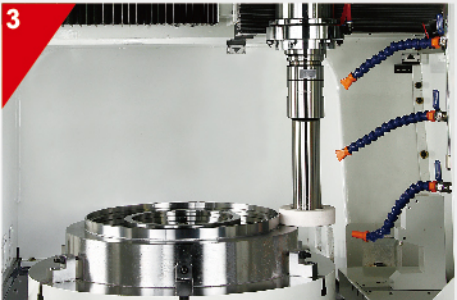
CNC CONTROLLER

- The Mitsubishi M70 controller with a user-friendly control panel frame that allows operator to easily choose different grinding modes.
- FANUC controller is optional.



ELECTRIC CABINET

- Electric components meet with international standard for safety.
- The cabinet is equipped with a heat exchanger to keep in normal temperature range for stable working environment.



BUILT-IN TYPE GRINDING
WHEEL SPINDLE

- Variable speed range from 2000~10000 r.p.m..
- The spindle equipped oil-cooling system offers better stability.



AUTO. TOOL CHANGE SYSTEM (ATC)

- Equipped with max. 6 no. grinding wheels for different diameter or accuracy requirement.
- The tool holder is BBT. 50 type for higher rigidity.