

**CINCINNATI
MACHINES**

*Large Heavy Duty
Vertical Turning Centers*



Machine Structure



Massive heavy-duty box design meehanite column casting with widely spaced vertical ways provide rock solid machining capabilities.

• Powerful tool clamping system



• GC clamping system

• RG clamping system

• Solid Lock clamping system (U.S. patent)



• Efficient Rigid Cross-Rail

• The cross-rail design features 4 height adjustment positions that are hydraulically locked to insure maximum ease of use and rigidity.



• Massive Heavy-Duty Table Bearing

• The massive precision table bearing and case hardened drive gear insure rock solid machining capabilities.

• Single-Piece Rigid Box Design Meehanite Bed

• The massive single-piece box design bed provides maximum rigidity for those heavy cuts



C-TYPE ATC

(Turning)



• GC-200 Curvic coupling VTC 125/160



• RG-250 Curvic coupling VTC 200/250



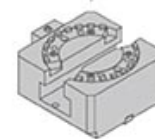
• PC17T (Option) (Two Face Contact Tooling / Patent)



C-Type ATC Tool System

RAM □220X220
□250X250

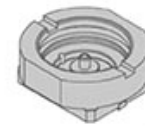
Clamping Type



Model:GC-200



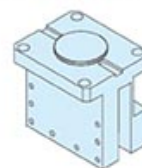
Model:RG-250



(Option)
Model:SL-17T(□220/□250)

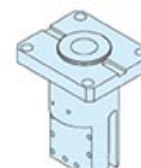
Tool holder Model

OD/Facing Tool



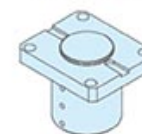
IDF32-200-200
IDF32-240-200

ID Tool



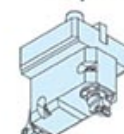
IFL25-120-250
IFL32-130-250

Boring Tool



BOS60-130-160

Capto



BDC6-220-200
FDC6-220-200
VHC6-220-200
HVC6-220-200

BDC6-250-200
FDC6-250-200
VHC6-250-200
HVC6-250-200

M-TYPE ATC (BT50)

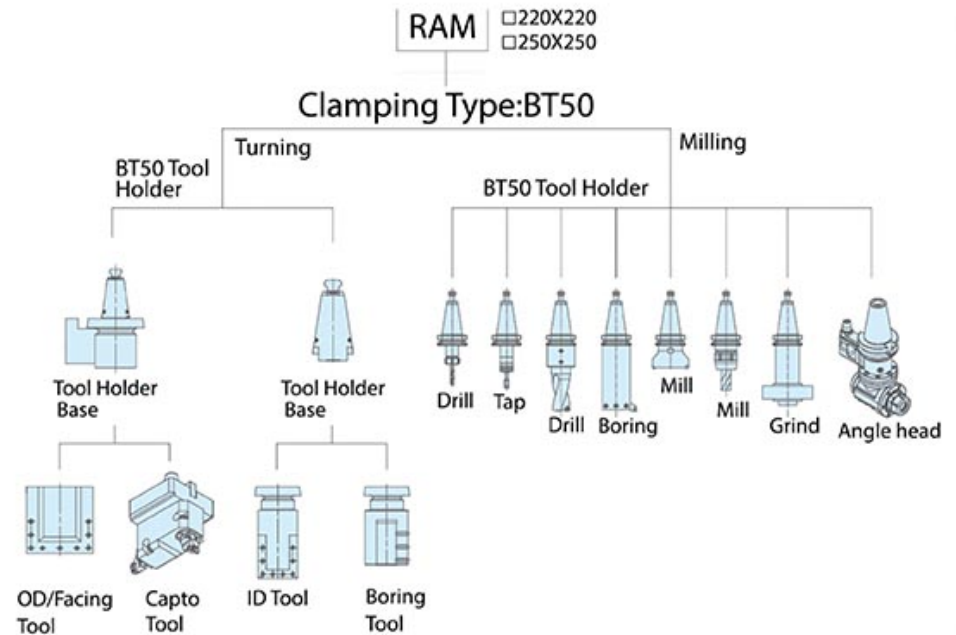
(Turning and milling)



• BT50-200 (BT50)

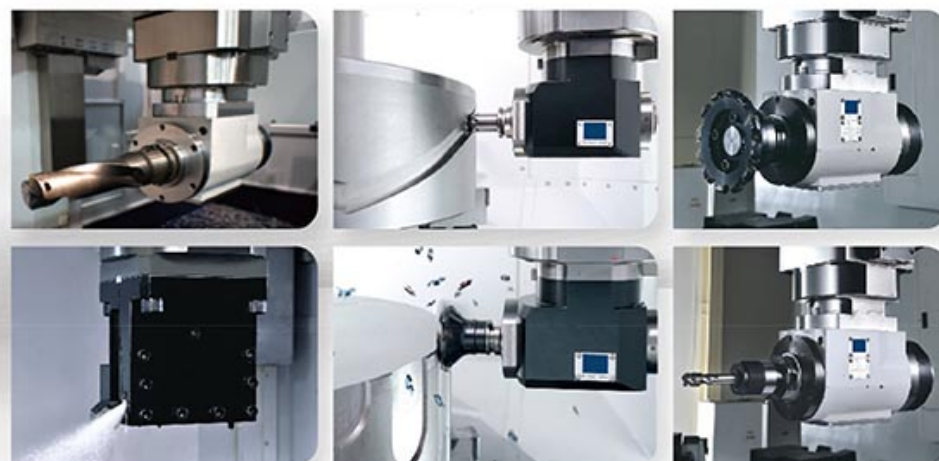
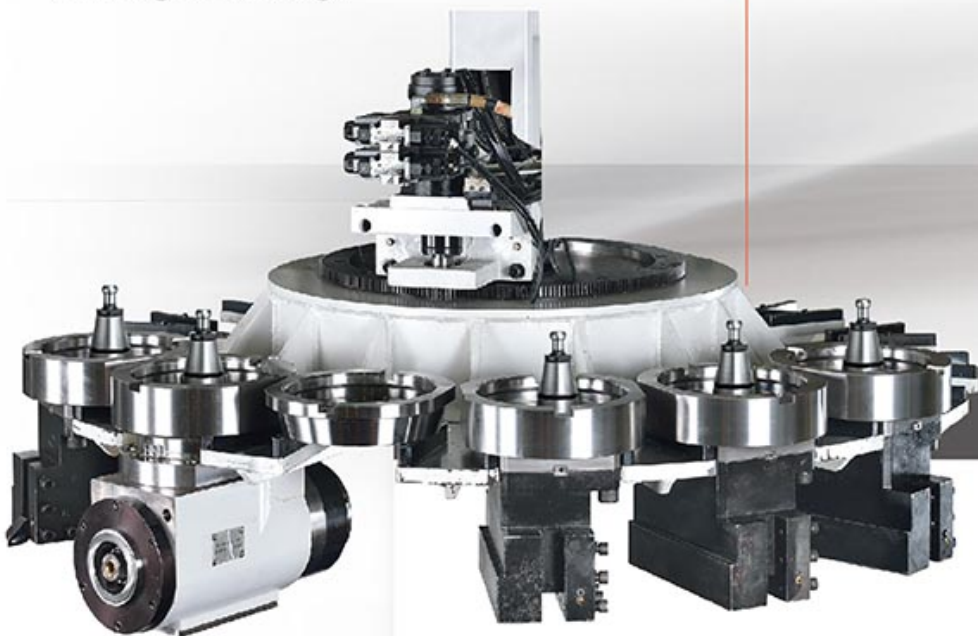


M-Type ATC Tool System



M-TYPE ATC (Solid Lock)

(Turning and milling)

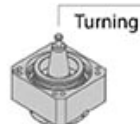


Solid-lock ATC Tool System(option)

•PC17A / PC22A (Two Face Contact Tooling / Patent)



Clamping Type:



Turning

Tool Holder Base SL-17A(□220)
SL-22A(□250)

Tool Holder

OD/Facing Tool



IDF32-200-200
IDF32-240-200

ID Tool



IFL25-120-250
IFL32-130-250

Boring Tool



BOS60-130-160

Capto



BDC6-220-200
FDC6-220-200
VHC6-220-200
HVC6-220-200

BDC6-250-200
FDC6-250-200
VHC6-250-200
HVC6-250-200

PC17A/PC22A (Solid Lock Patent)



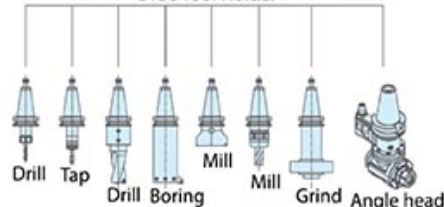
□220X220
□250X250

Milling



Cover

BT50 Tool Holder



Angle Head

Milling



ATCM90

Milling



ATCM90-2

Tool Holder

BT40

Drill

Mill

Tap

Drill

Tool Holder

BT50

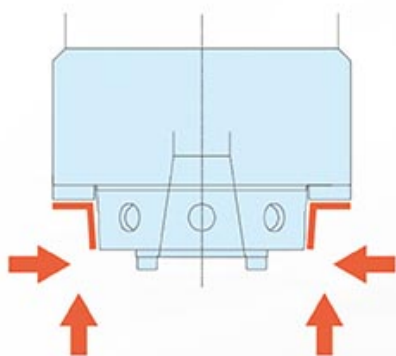
Drill

Mill

Tap

Drill

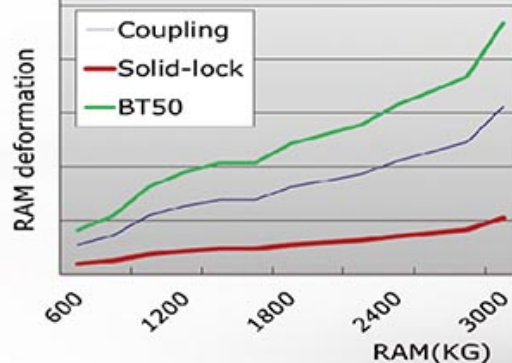
SOLID LOCK



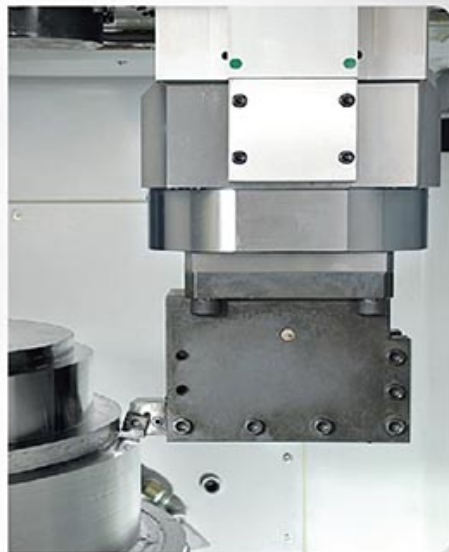
Two face contact
ball clamping anti-vibration
Max. 8,000kg clamping force

• Patented

Clamping Stiffness Comparison



• Max. Clamping force : 8000 kg



■ Milling Capacity

Model	VTC 160M
Spindle motor	11/15 kW
Material	S45C
Milling cutters	Ø100x7
Cutting depth	4.5 mm
Feed rate	720 mm/min
Cutting speed	160 m/min
Material removable rate	320 cm³/min



■ Turning Capacity

Model	VTC 160
Spindle motor	60/75kW(OPTION)
Material	S45C
Cutting depth	13 mm
Feed rate	1.0 mm / rev
Cutting speed	130 m/min
Material removable rate	1690 cm³/min



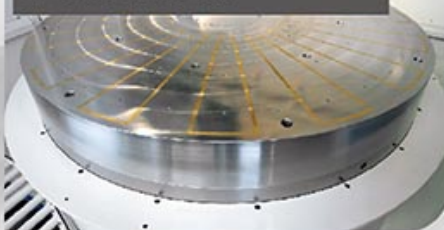
Optional

• Hydraulic chuck



• Magnetic chuck

Patented



• Linear encoder



• Touch probe (workpiece inspection)



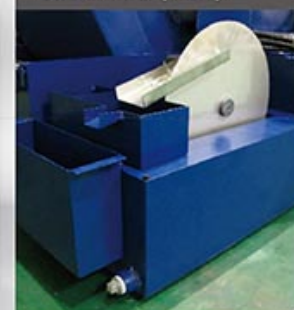
• Tool presetter



• Siemens controller



• Oil skimmer (disk)



• Air conditioner for electrical cabinet



• Spin window



• Paper type filter



• Oil mist collector



• Thermal compensation



• Second control box



Options continued

■ Z-axis travel



●: Standard / ○: Option

Unit:mm

MODEL	□220	□250	□300
VTC 125	●900	○900 ○1200	----
VTC 160	●900	○900 ○1200 ○1500	----
VTC 200	----	●1200 ○1500	○1800
VTC 250	----	●1200 ○1500	○1800

■ 40 ATC



●: Standard / ○: Option

ATC tools	(Turning)	(milling)
12	●	----
16	○	●
20	○	○
24	○	○
L24+R16	----	○

■ Dual ram



■ B axis



■ Auto pallet changer



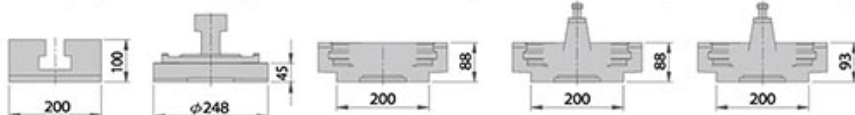
■ Full enclosed splash guard



Tool Holder System

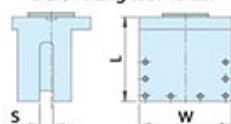
Tool holder base:

GC-200 (Gear Coupling) RG250 (Gear Coupling) SL-17T (□220/□250) (Two face contact tooling) SL-17A (□220) (Two face contact tooling) SL-22A (□250/300) (Two face contact tooling)



GC-200 / RG250 / SL-17T / SL-17A / SL-22A Tool holder:

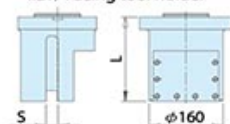
O.D. / Facing tool holder



Model	L	S	W
IDF25-200-200	200	25	200
IDF32-200-200	200	32	200
IDF32-240-200	200	32	240
IDF40-285-200	200	40	285

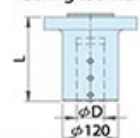
Note: Only for SL-17A & SL-22A

I.D. / Facing tool holder



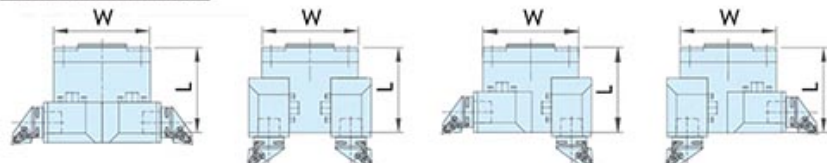
Model	L	S
IFL25-160-200	200	25
IFL32-160-200	200	32

Boring tool holder



Model	L	D
BOS40-120-200	200	40
BOS50-120-200	200	50
BOS60-120-200	200	60

Capto Tool holder:



Model	L	W
BDC6-220-200	200	220
BDC6-250-200	200	250

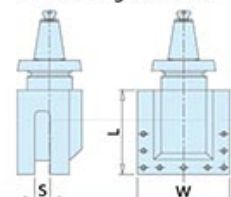
Model	L	W
FDC6-220-200	200	220
FDC6-250-200	200	250

Model	L	W
VHC6-220-200	200	220
VHC6-250-200	200	250

Model	L	W
HVC6-220-200	200	220
HVC6-250-200	200	250

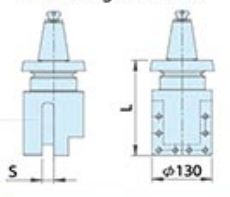
BT50 Tool holder:

O.D. / Facing tool holder



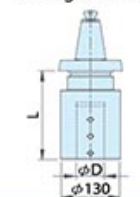
Model	L	S	W
BT50-IDF25-200-200	200	25	200
BT50-IDF32-200-200	200	32	200
BT50-IDF32-240-200	200	32	240

I.D. / Facing tool holder



Model	L	S
BT50-IFL25-130-200	200	25
BT50-IFL32-130-200	200	32

Boring tool holder



Model	L	D
BT50-BOS40-130-200	200	40
BT50-BOS50-130-200	200	50
BT50-BOS60-130-200	200	60

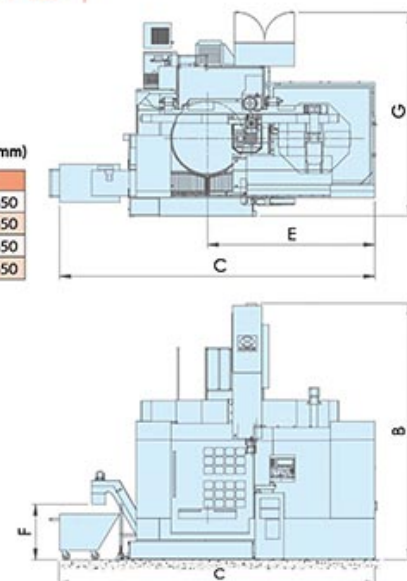
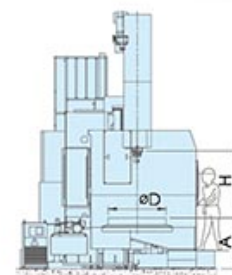
Note: W200 is only for □220 / W240 is only for □250

Machine Dimensions

•VTC 125/ VTC 160

(unit:mm)

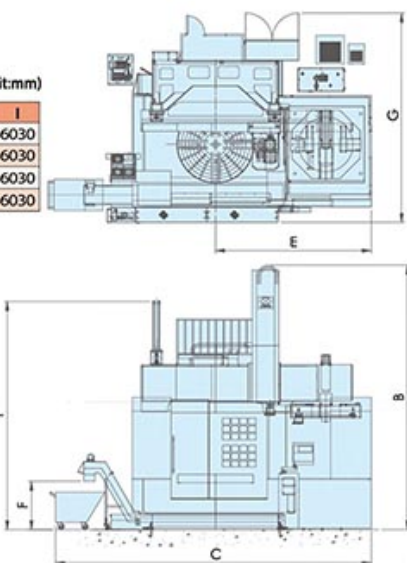
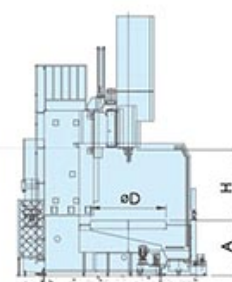
	A	B	C	φD	E	F	G	H
VTC 125	1100	5250	6480	Ø1250	3277	1200	4875	650~1450
VTC125M	1100	5650	6850	Ø1250	3625	1200	4875	650~1450
VTC 160	1100	5250	7035	Ø1600	3500	1200	5175	650~1450
VTC 160M	1100	5650	7380	Ø1600	3825	1200	5175	650~1450



•VTC 200/ VTC 250

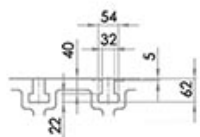
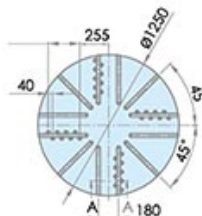
(unit:mm)

	A	B	C	φD	E	F	G	H	I
VTC 200	1455	6635	7970	Ø2000	3960	1280	5532	825~1825	6030
VTC 200M	1455	6970	8400	Ø2000	4120	1280	5532	825~1860	6030
VTC 250	1455	6635	8295	Ø2500	3915	1280	5564	825~1825	6030
VTC 250M	1455	6970	8580	Ø2500	4200	1280	5564	825~1860	6030

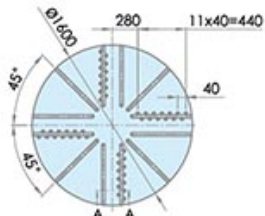


Manual Table Dimensions

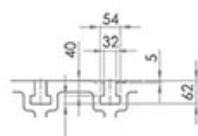
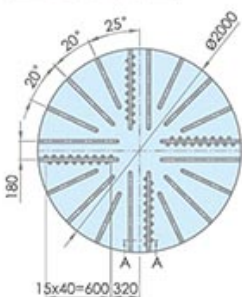
VTC 125



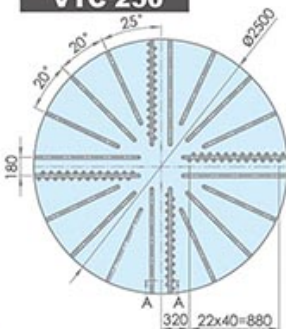
VTC 160



VTC 200

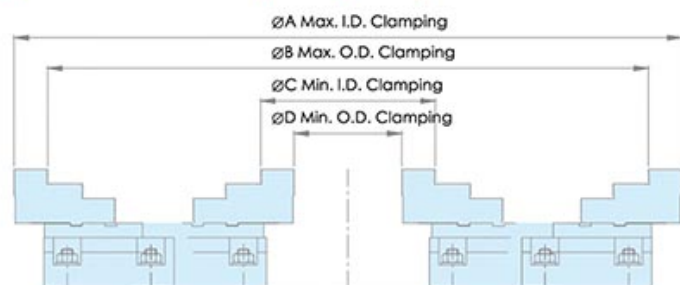


VTC 250



(unit:mm)

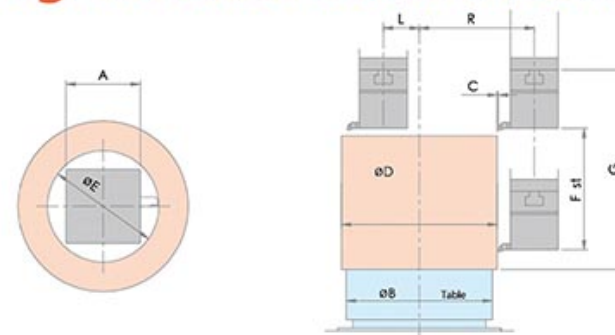
Workpiece Clamping



(unit:mm)

Model	A	B	C	D	Model	A	B	C	D
VTC 125	1340	1230	370	250	VTC 200	1950	1740	750	530
VTC 160	1720	1600	420	300	VTC 250	2500	2220	750	530

Working Area And Tool Interference



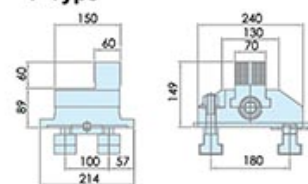
(unit:mm)

Model	A	ØB	C	ØD	ØE	F	G	H	I
VTC 125	220	1250	20	1600	330	900	650-1450	950	200
VTC 160	220	1600	20	2000	330	900	650-1450	1150	200
VTC 200	250	2000	40	2500	360	1200	825-1825	1450	300
VTC 250	250	2500	5	2970	360	1200	825-1825	1650	300

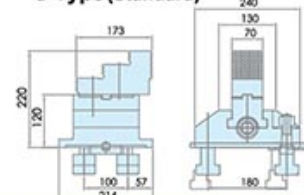
Jaws Dimensions

VTC 125/VTC 160

F Type

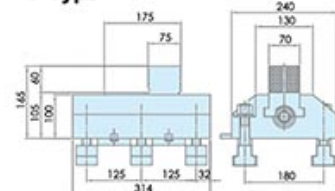


C Type (Standard)

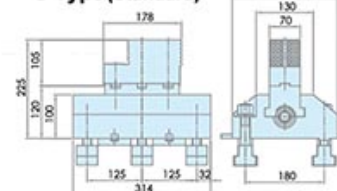


VTC 200/VTC 250

F Type



C Type (Standard)



Machine Specifications

Model/Description		Unit	VTC 125	VTC 125M	VTC 160	VTC 160M	VTC 200	VTC 200M	VTC 250	VTC 250M
Capacity	Max. swing diameter	mm	1600		2000		2500		3000	
	Max. turning diameter	mm	1600		2000		2500		2970	
	Distance from ram to table	mm	650-1450		650-1450		825-1825	860-1860	825-1825	860-1860
	Max. turning height	mm	1200	1170	1200	1170	1600		1600	
	Max. workpiece weight	kg	5000		8000		12000		15000	
Spindle	Table diameter	mm	1250		1600		2000		2500	
	Range of table speed	rpm	3-300		3-250		5-200		5-160	
	Gear box		2-step		2-step		2-step		2-step	
	Live tool spindle speed	rpm	-	50-2250	-	50-2250	-	50-2250	-	50-2250
ATC	ATC(Automatic Tool Changer)		12	16	12	16	12	16	12	16
	Tool size	mm	□25, □32		□25, □32, □40		□25, □32, □40		□25, □32, □40	
	Cross-section of ram	mm	220x220	220x220 250x250	220x220	220x220 250x250	250x250	250x250	250x250	250x250
Feed	Rapid rate (X-Axis)	m/min	10		10		10		10	
	Rapid rate (Z-Axis)	m/min	10		10		10		10	
	Horizontal travel(X-Axis)	mm	-200+950		-200+1150		-300+1450		-300+1650	
	Vertical travel (Z-Axis)	mm	900		900		1200		1200	
	Cutting feed rate	mm/min	0.001-500		0.001-500		0.001-500		0.001-500	
	Feed override	%	0-150		0-150		0-150		0-150	
	Cross-rail travel	mm	800(200x4 steps)		800(200x4 steps)		1000(250x4 steps)		1000(250x4 steps)	
Motor	Control system		Fanuc 0i-T		Fanuc 0i-T		Fanuc 0i-T		Fanuc 0i-T	
	Spindle motor (Cont./30min)	kW	AC37/45		AC37/45		AC60/75		AC60/75	
	Feed motor(X/Z axis)	kW	7.0/7.0		7.0/7.0		5.5/5.5		5.5/5.5	
	Live tool motor	kW	-	AC11/15	-	AC11/15	-	AC11/15	-	AC11/15
	Power requirement	kVA	75	90	75	90	90	105	90	105
Machine size	Floor space(LxW)	mm	6500x4900	6900x4900	7100x5200	7400x5200	7600x5500		7800x6100	
	Max. height(H)	mm	5200	5650	5250	5650	6650	7000	6650	7000
	Net weight	kg	24500	25300	27500	28300	47000	49000	51000	53000

NOTE

Standard accessories

- Complete splash guard.(Top open)
- Hydraulic power unit.
- Table with manual 4-jaw chuck as spec.
- Protection door.
- Automatic lubrication system.
- Working light.
- Warning light.(R/Y/G)
- Workpiece counter.(CNC controller)
- Coolant system with tank.
- Coolant bed wash down system.
- Heat exchanger for electrical cabinet.
- Hand tool sets with tool box.
- Leveling bolts & seat pads.
- Chip conveyor. (Hinge type)
- Chip trolley.
- Spindle orientation.
- Manual of operation & maintenance.
- Manual of electrical & hydraulic circuit diagram.

Optional accessories

- Hydraulic chuck & cylinder, size selections.
- Hard jaw for hydraulic chuck.
- Hydraulic chuck soft jaw.
- High & low pressure chucking.
- Air conditioner for electrical cabinet.
- Power transformer.
- Oil skimmer.(Disk type)
- Tool holder base.
- Other tool holder & special tool holder.
- Tool presetter.
- Linear encoder of X/Z axis.
- Lubricant chiller for spindle bearing & gear.
- Extend vertical travel.(Z axis)
- Extend higher column.
- High pressure coolant through tool holder.
- Dual speed gear box for live tool spindle.
- Chip conveyor.(scraper type)
- Manual guide i.
- CE certificate.
- Tooling.
- Jig & fixture
- Turnkey project.
- Siemens controller.

NOTE