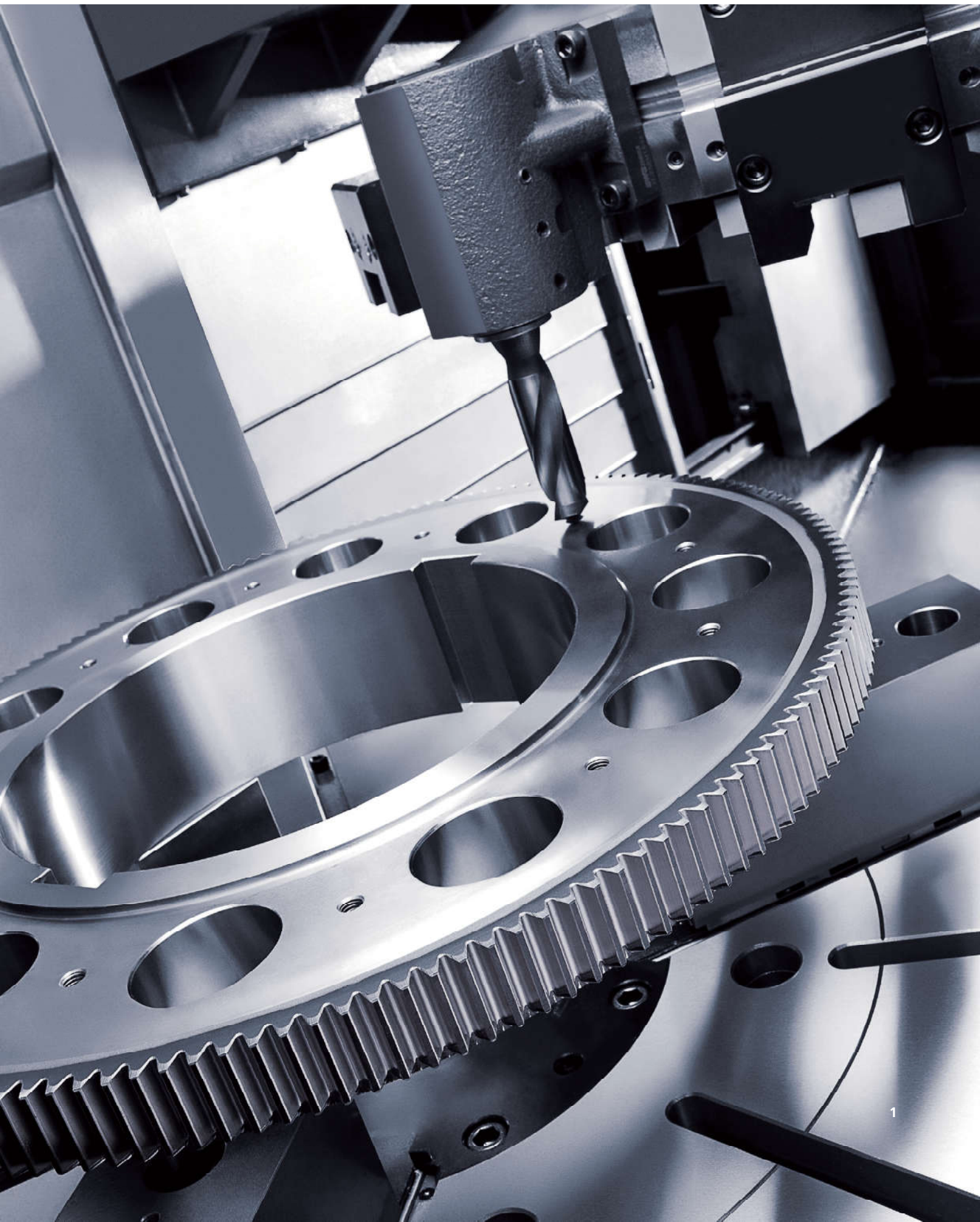


# VT-950<sup>+</sup>/1150<sup>+</sup>

Large Size Vertical Turning Center  
Built in Gear Box with 24" – 50" Chuck

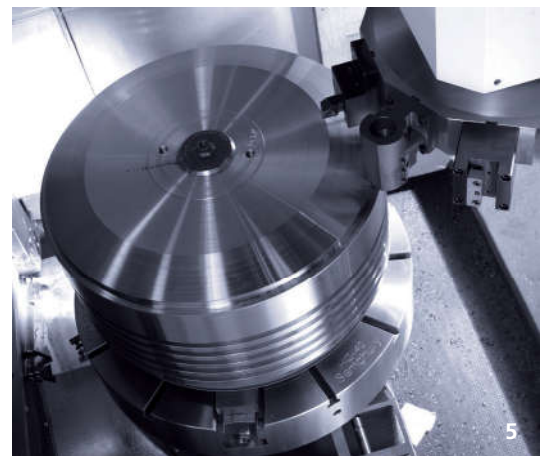
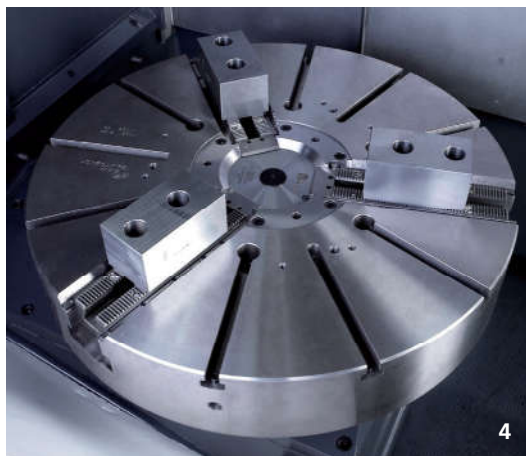
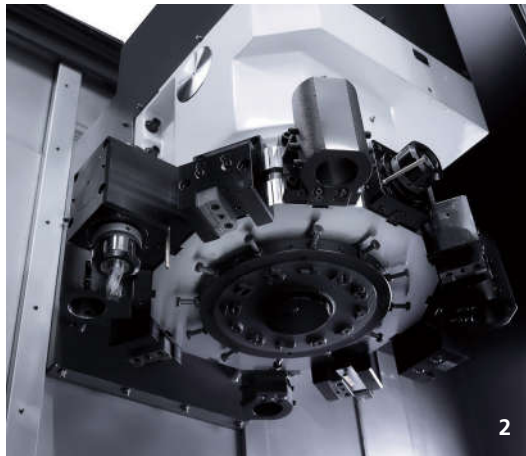




# LARGE SIZE VERTICAL TURNING CENTER BUILT IN GEAR BOX WITH 24"- 50" CHUCK

The machines can handle a variety of complex processes from turning to milling and drilling in one setting. With the heavy structure this turning centers can cut down your machining process and make your work more precise and productive.

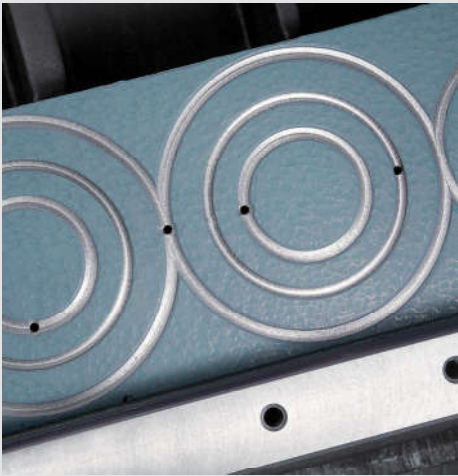
1 Gear / Plant Industry / SCM415   2 BMT85 Turret for Turnmill  
3 Flange / Sample / SM45C   4 50" Chuck   5 Piston / Shipment / FCD700



# HEAVY DUTY CUTTING FOR LARGE WORKPIECES

VT-950+/1150+ vertical turning centers are the ideal machines for your large size applications. With the precision hand scraped and polished guide way system in all axes, the unique one piece machine bed design, this vertical centers are rigid and built to absorb vibration and best stability. Hwacheon's advanced air floating system keeps the operation stable and allows for smoothest operations.

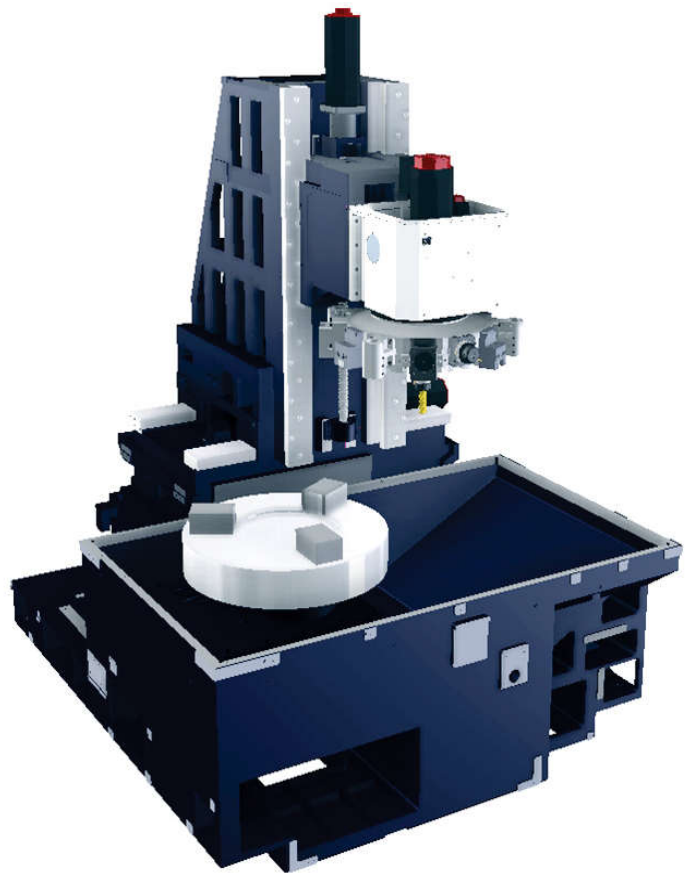




**Box Way Design Including Air Floating System**

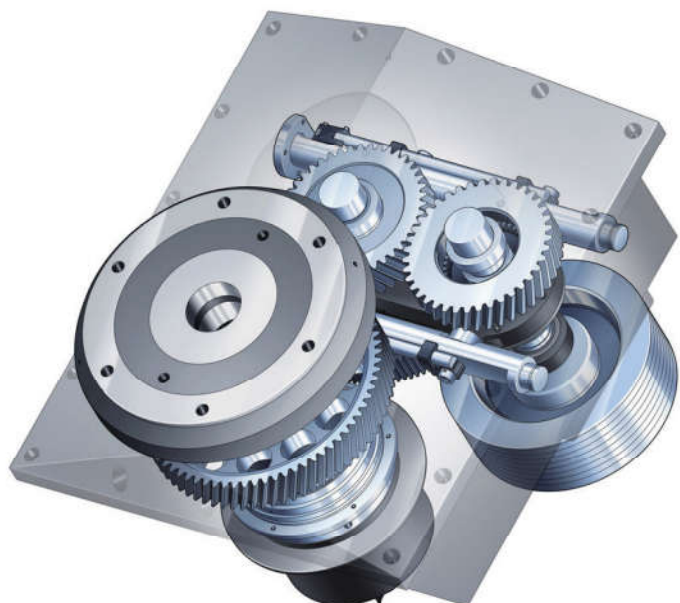
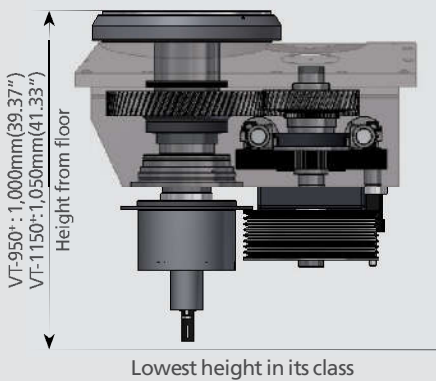
The solid box way guide design used for all axes plus Hwacheon's proprietary air floating technology limit's vibrations and displacement which may occur from the friction heat.

**Extra Rigid Machine Structure**



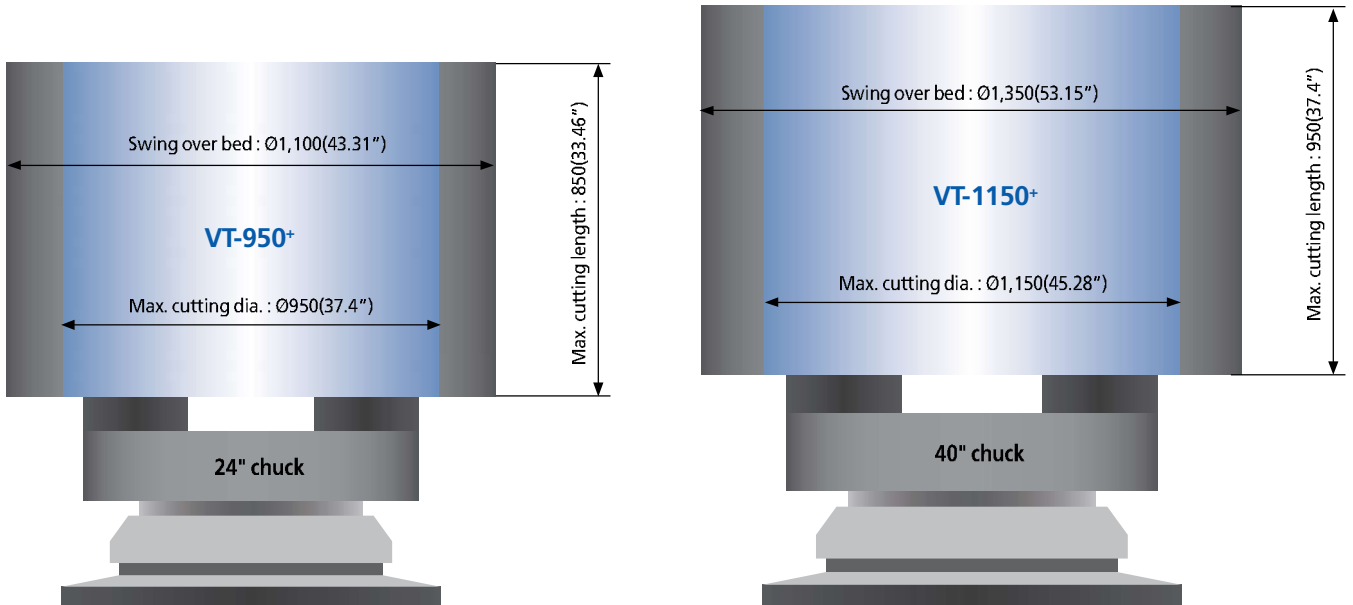
**High Performance Integrated Gear System**

The high performance spindle with a built-in high torque gear offers extra high torque at low speed operations and stability as well as precision.



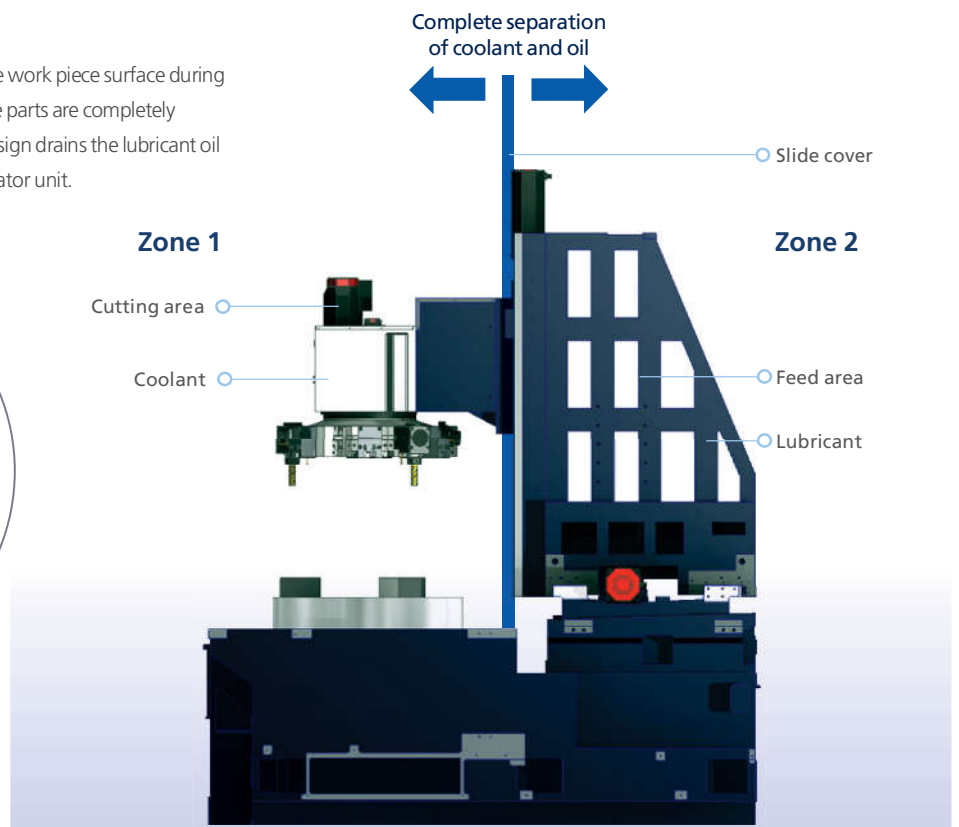
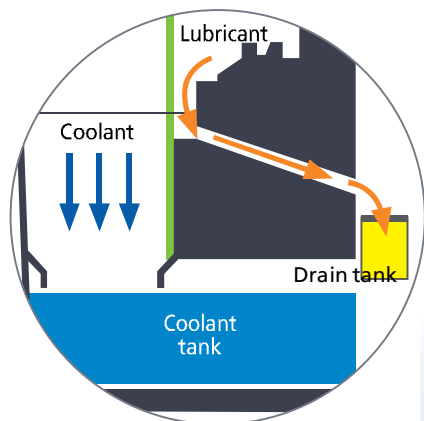
### Interference Free Operation

The max. turning diameter zone is designed to provide interference free operations. Providing same max. diameter at full length even on larger work pieces.



### Environment-Friendly Design

To prevent the lubrication oil from dripping on the work piece surface during dry cutting, the cutting area and moving machine parts are completely separated. The environment-friendly machine design drains the lubricant oil separately and is eliminating the need for a separator unit.



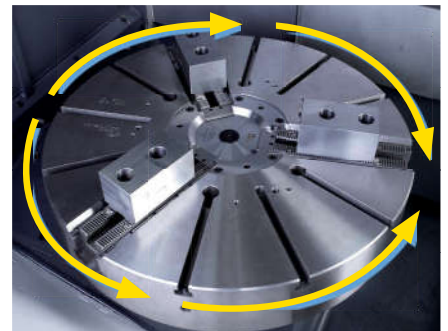


# USER FRIENDLY DESIGN, A WIDE RANGE OF OPTIONAL FEATURES

VT-950+/1150+ vertical turning centers are designed with the user in mind. The user-friendly machine design and a variety of supplementary features make for stronger, faster, and more precise machining performance.

### Fast Chip Removal

The wide, sloped slide cover design and the chip flushing at each side of the table remove the chips quickly and effectively.



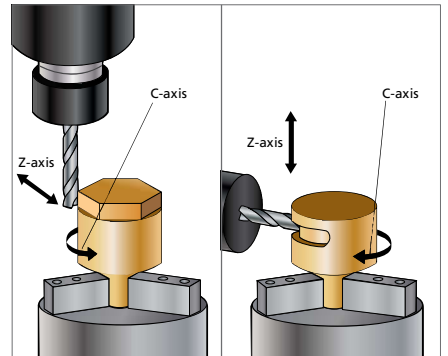
Coolant Bed Flushing

### Best milling performance in its class

The milling system of the VT-950+ and 1150+ is powered by a high output spindle motor, the C-axis with 0.001-degree indexing allows the functionalities of a complete machining center in three axis simultaneously.

VT-950+/1150+ vertical turning centers perform turning, milling, drilling and tapping in one setting.

		VT-950+	VT-1150+
Capacity	Drilling	Ø32mm(Ø1.25")	
	End milling		
	Tapping	M24	



Turnmill(Optional)

### L-HTLD: Hwacheon Lathe Tool Load Detect System (Option)



The Hwacheon Lathe Tool Load Detect System constantly detects and diagnoses the tool load under a process to prevent tool wear and damage, and to keep your machine and tools in optimal shape.

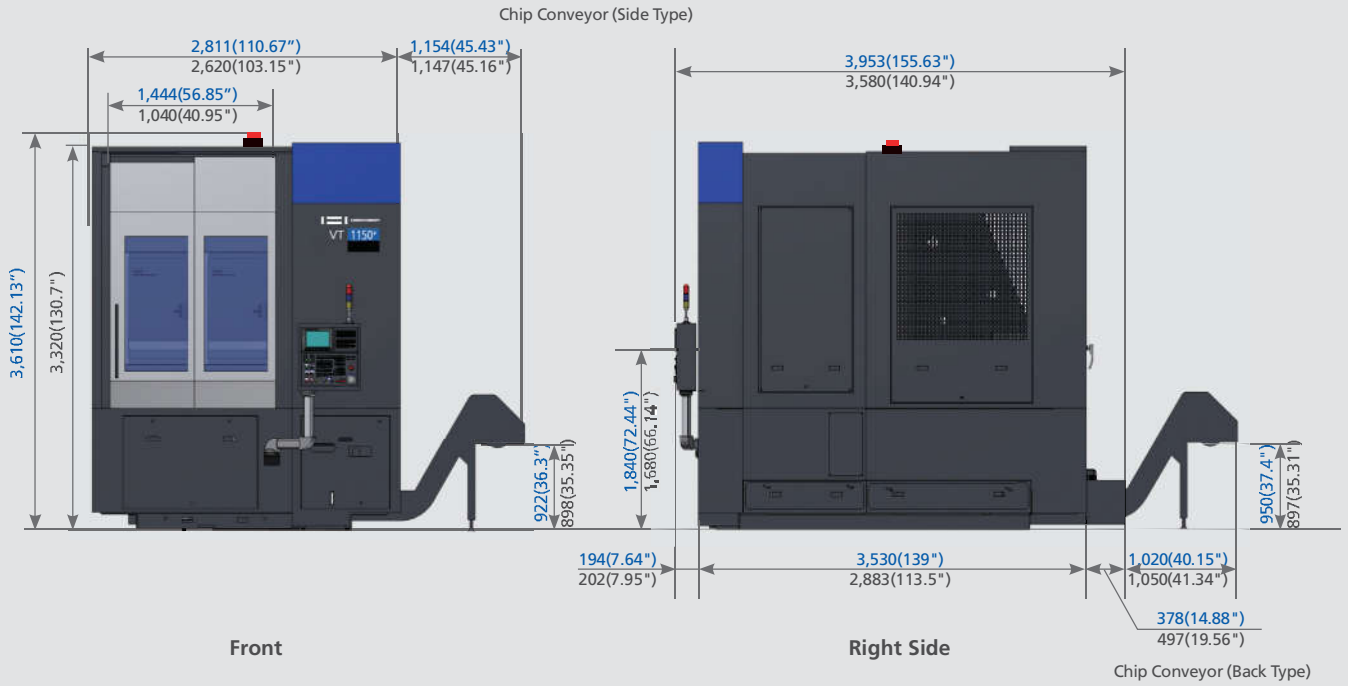
Load Detection Limit 1	Load Detection Limit 2
Alarm + Feed Hold	Alarm + Machine Stop
> When the LIMIT 1 Alarm sounds, the system holds the feed and the machine goes into standby.	> When the LIMIT 2 Alarm sounds, the system stops the machine, and must be reset to operate it.



**Product Data**

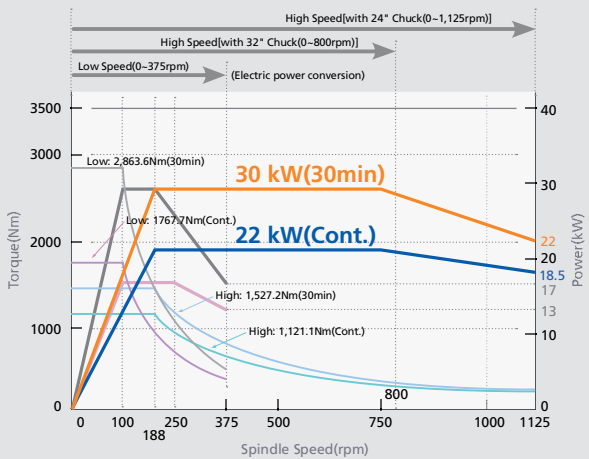
■ VT-950+ ■ VT-1150+

\* Unit: mm(inch)

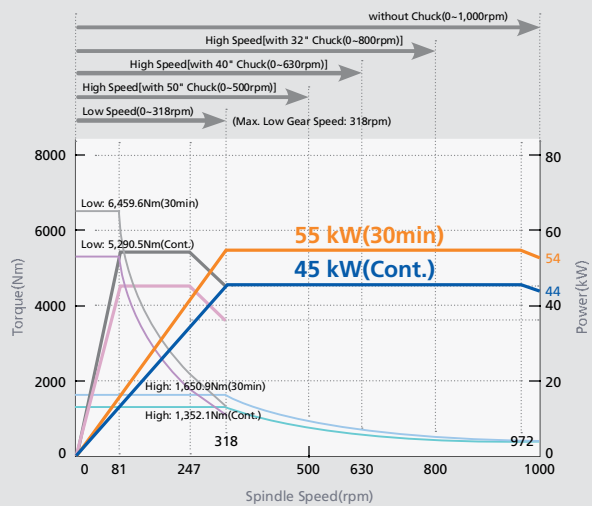


**Spindle Power-Torque Diagram**

**VT-950+(STD)**



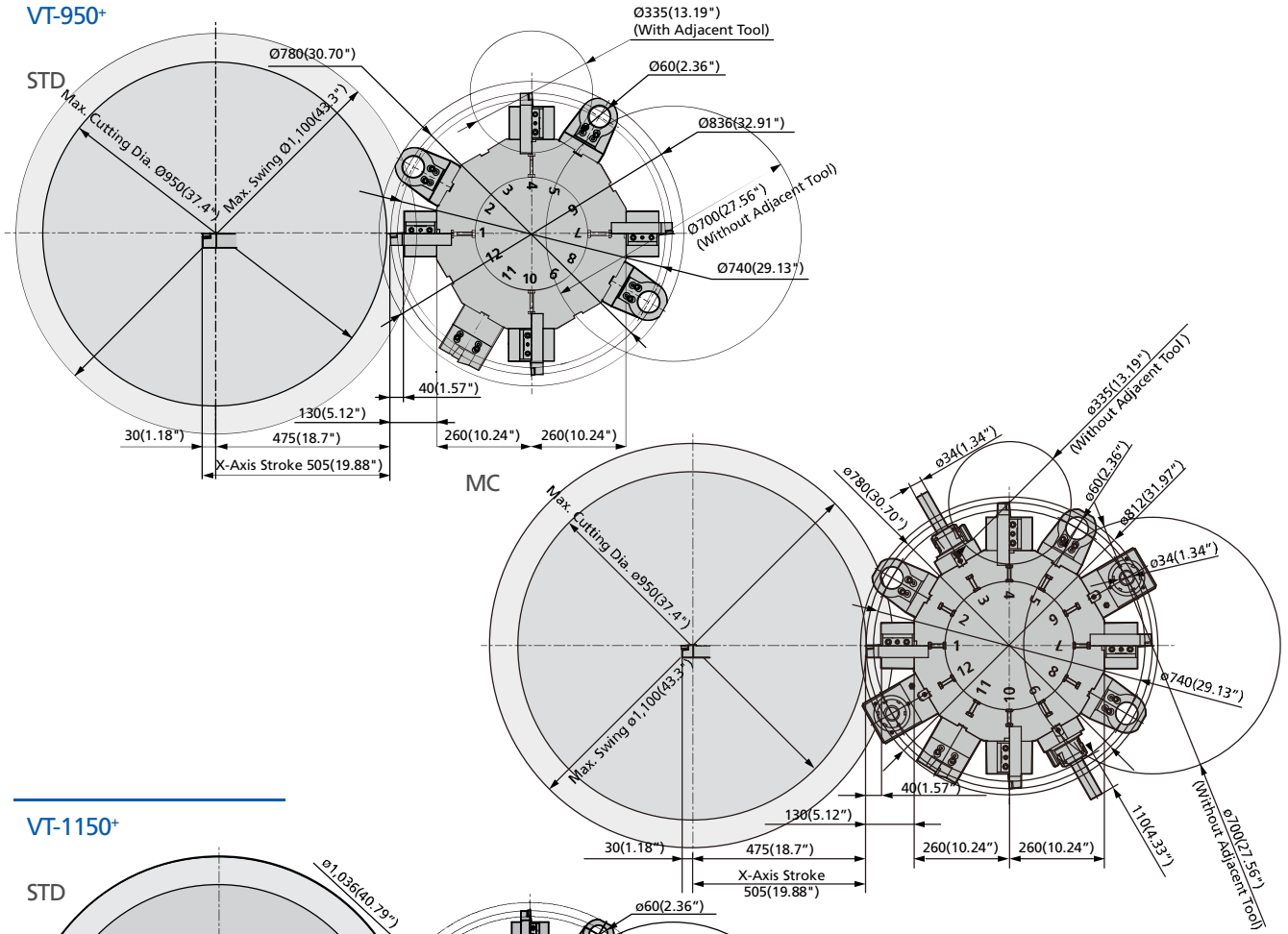
**VT-1150+(STD)**



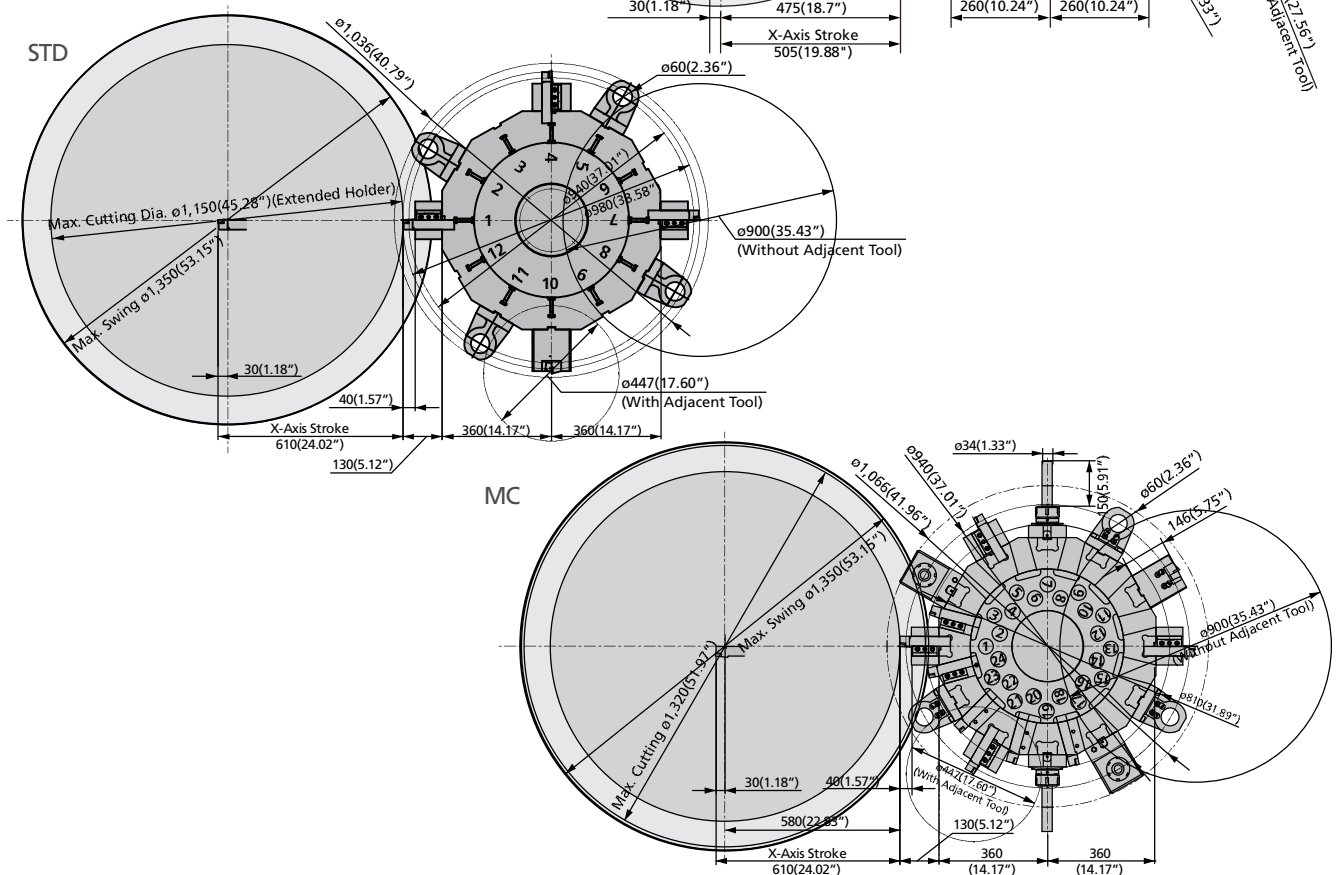
Tool Interference Diagram

※Unit: mm(inch)

VT-950+



VT-1150+

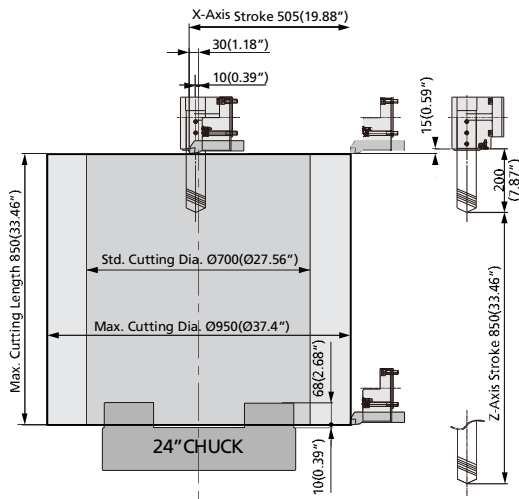


Moving Range

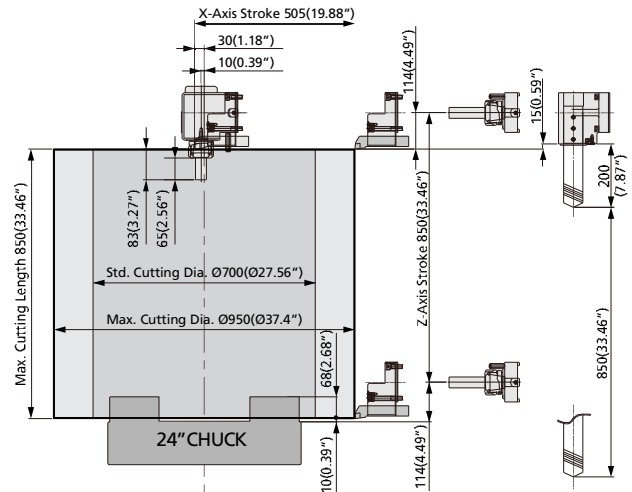
※ Unit: mm(inch)

VT-950+

STD

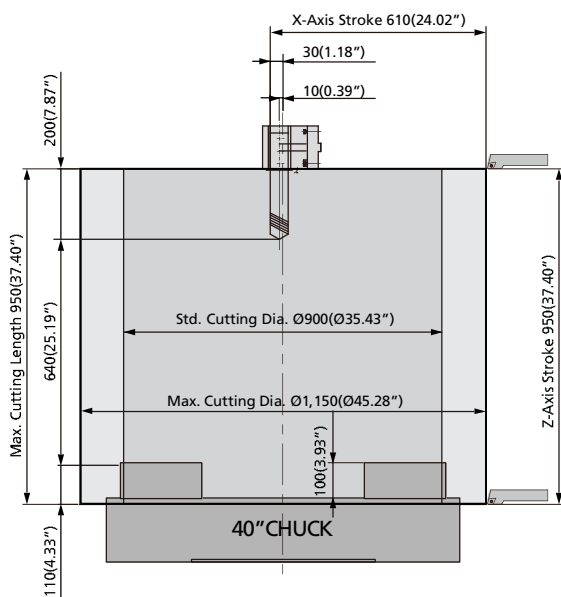


MC

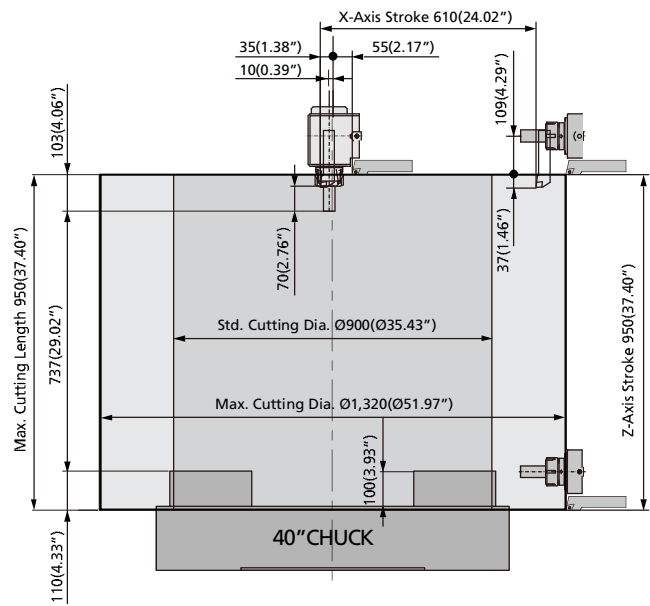


VT-1150+

STD

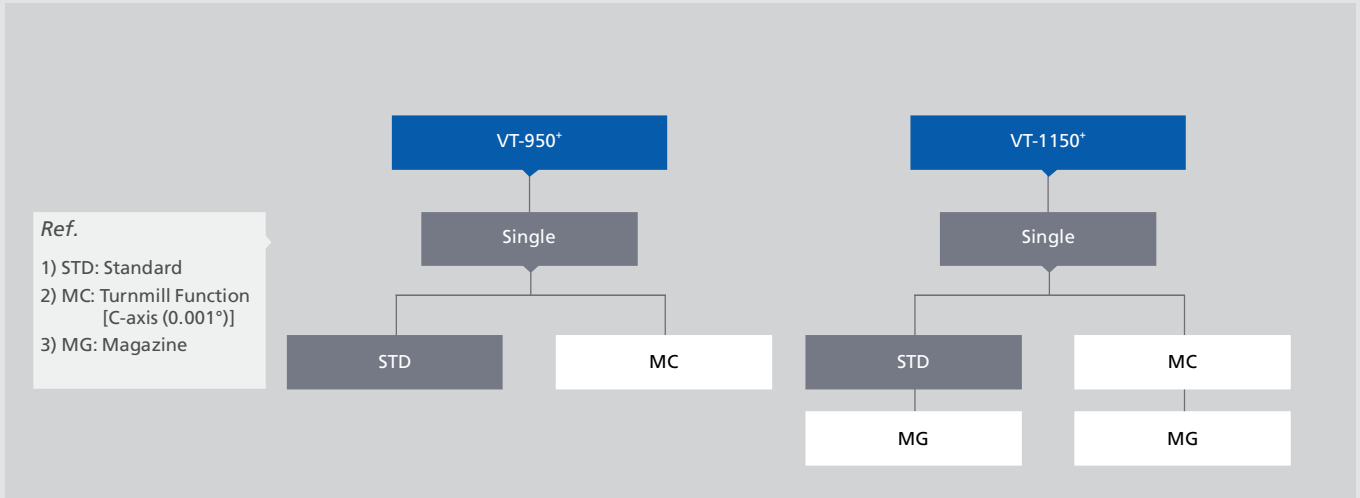


MC



## Product Configuration

Each product can be configured to fit your application.



## Machine Specifications

ITEM		VT-950+	VT-950+MC	VT-1150+[MG]	VT-1150+[MG/MC]
<b>Capacity</b>					
Swing over Bed	mm(inch)	Ø1,100 (43.31")		Ø1,350 (53.15")	
Max. Cutting Diameter	mm(inch)	Ø950 (37.40")		Ø1,150 (45.28")	MC: Ø1,320(51.97") [MG/MC : Ø1,150(45.28")]
Standard Cutting Diameter	mm(inch)	Ø700 (27.56")		Ø900 (35.43")	
Max. Cutting Length	mm(inch)	850 (33.46")		950 (37.40")	
Chuck Size	inch	24"(Opt.: 32")		40"(Opt.: 32"/ 50")	
<b>Spindle</b>					
Type of Spindle Nose	-	Ø380 Flat		Ø520 Flat	
Max. Spindle Speed	rpm	1,125		630	
Spindle Bearing Inner Diameter	mm(inch)	Ø240 (9.44")		Ø240 (9.44")	
Spindle Motor	kW(HP)	30 / 22 (40 / 30)		55 / 45 (73.5 / 60)	
<b>Turret</b>					
Number of Tool Station	ea	12		12	12(MG16) MC: 24 [MG/MC: 12(MG16)]
Tool Size	mm(inch)	□32 x Ø60 (□1.25" x Ø2.5")		□32 x Ø60 (□1.25" x Ø2.5")(MG Type : Holder Opt.)	
Turret Indexing Time	sec/step	0.18		0.2	
<b>Axes</b>					
Rapid Speed (X/Z)	m/min(ipm)	24 / 24(944.88/944.88)		24 / 20(944.88/787.4)	
Max. Stroke (X/Z)	mm(inch)	505 / 850 (19.88" / 33.46")		610 / 950 (24.02" / 37.40")	
Feed Motor (X/Z)	kW(HP)	7.0 / 9.0 (9.5 / 12)		6.0 / 9.0 (8 / 12)	
<b>Turnmill (Opt.)</b>					
Spindle Motor	kW(HP)	-	Opt 1: 7.5 / 5.5 (10 / 7.5) Opt 2: 11 / 7.5 (15 / 10)	-	7.5 / 5.5 (10 / 7.5) [Opt : 11 / 7.5 (15 / 10)]
Max. Spindle Speed	rpm	-	3,000	-	3,000
Max. Drill/Tap Size	mm	-	Ø32 (1.25") / M24	-	Ø32 (1.25") / M24
Min. Index Angle	°(deg)	-	0.001°	-	0.001°
<b>Tank Capacity</b>					
Lubrication	ℓ (gal)	12 (3.17)		12 (3.17)	
Hydraulic	ℓ (gal)	50 (13.21)		50 (13.21)	
Coolant	ℓ (gal)	266 (70.26)		266 (70.26)	
<b>Power Sources</b>					
Electrical Power Supply	kVA	75		100	
<b>Dimension</b>					
Height	mm(inch)	3,320 (130.71")		3,610 (142.13")	
Floor Space (LxW)	mm(inch)	2,620 x 3,580 (103.15" x 140.94")		2,811 x 3,953 (110.67" x 155.63")	3,531 x 3,953 (139" x 155.63") MC: 2,811 x 3,953 (110.67" x 155.63") [MG/MC: 3,531 x 3,953 (139" x 155.63")]
Weight	kg,(lb.)	15,000 (33,069)	15,100 (33,290)	24,000 (52,911)	25,100(55,336) MC: 24,100 (53,131) [MG/MC: 25,200 (55,556)]
<b>NC Controller</b>		Fanuc Oi-TF			

## Standard and Optional product components

■ Common ■ VT-950+ ■ VT-1150+




Standard Accessories		Optional Accessories	
• Air Gun	• Manual & Parts List	• Air Blower	• Mist Collector
• Chuck Pressure Compensation	• Manual Guide i	• Auto Door	• NC Cooler
• Coolant System	• Set of Soft Jaws (24")	• Chip Conveyor & Bucket, Back Type / Side Type	• Set of Hard Jaws - 32"
• Door Interlock	• Set of Soft Jaws (40")	• Chuck Dual Pressure System	• Set of Hard Jaws - 32" / 40" / 50"
• Foot Switch	• Signal Lamp with 2 Colors (R, G)	• Chuck Pressure Check Switch	• Signal Lamp with 3 Colors (R,G,Y)
• High Pressure Pump (6bar)	• Spindle Cooling System	• Chuck Pressure Compensation	• Tool & Work Counter, External / Internal
• Hydraulic Chuck & Cylinder (24" Solid)	• Tool Kit & Box	• Coolant Gun	• Tool Life Management
• Hydraulic Chuck & Cylinder (40" Solid)	• Tooling System	• Gap 120mm	• Tool Presetter (Automatic)
• Hydraulic Unit 40kg <sub>f</sub> /cm <sup>2</sup>	• Turret 12 Station	• High Pressure Pump 15bar	• Transformer
• Leveling Bolt & Plate	• Work Light	• Hydraulic Chuck, 32" / 50" Solid	• Turnmill Function Including C-axis (0.001")
• Linear Scale (X / Z)	• 10.4" Color LCD	• Independent Chuck, 32" (4-jaw)	- Opt 1 : α6 / 10,000i Motor
• Lubrication Unit		• Independent Chuck, 40" / 50" (4-jaw)	- Opt 2 : α8 / 10,000i Motor
		• L-HTLD (Lathe-Hwacheon Tool Load Detect)	• Turnmill Holder, Axial / Radial
		• Linear Scale (X / Z)	• U-Drill Holder
		• Magazine 16 Tools	• 15" Color LCD (only FANUC)

## NC Specifications [Fanuc0i-TF]

\* : Not available S : Standard O : Option

ITEM	SPECIFICATION	STD	MC	ITEM	SPECIFICATION	STD	MC
Controlled axis				Program input			
Controlled axis (Cs axis)	2-Axes	2-Axes	3-Axes	Programmable data input	G10	S	S
Simultaneously controlled axes	2-Axes	2-Axes	3-Axes	Sub program call	10 folds nested	S	S
Least input increment	0.001mm, 0.001deg, 0.0001inch	S	S	Custom macro B		S	S
Least input increment 1/10	0.0001mm, 0.0001deg, 0.00001inch	O	O	Addition of custom macro -common variables	#100-#199, #500-#999	S	S
inch/metric conversion	G20, G21	S	S	Canned cycles		S	S
Stored stroke check 1,2,3		S	S	Multiple repetitive cycle		S	S
Chamfering on/off		S	S	Multiple repetitive cycle II		S	S
Backlash compensation		S	S	Canned cycles for drilling		S	S
Operation				Manual Guide i		S	S
Automatic & MDI operation		S	S	Spindle speed function			
Program number search		S	S	Constant surface speed control	G96 / G97	S	S
Sequence number search		S	S	Spindle override	50 - 120%	S	S
Dry run, single block		S	S	Spindle orientation		S	S
Manual handle feed	1Unit	S	S	Rigid tapping		O	S
Manual handle feed rate	x1, x10, x100	S	S	Spindle synchronous control		-	-
Interpolation function				Tool function / compensation			
Positioning	G00	S	S	Tool function	T4-digits	S	S
Linear interpolation	G01	S	S	Tool offset pairs	128pairs	S	S
Circular interpolation	G02, G03	S	S	Tool nose radius compensation		S	S
Dwell (Per seconds)	G04	S	S	Tool geometry/wear compensation		S	S
Polar coordinate interpolation	G12.1 / G13.1	-	S	Tool life management		O	O
Cylindrical interpolation	G7.1	-	S	Automatic tool offset	Tool presetter option is required	O	O
Threading	G32	S	S	Direct input tool offset value measured B	Tool presetter option is required	O	O
Multiple threading		S	S	Editing operation			
Threading retract		S	S	Part program storage length	1,280m(512kB)	S	S
Continuous threading		S	S	Number of register able programs	400ea	S	S
Variable lead threading	G34	S	S	Background editing		S	S
Reference position return 1st	G28	S	S	Extended part program editing		S	S
Reference position return check	G27	S	S	Play back		S	S
2,3,4th reference position return	G30	S	S	Operation/Display			
Feed function				Clock function		S	S
Rapid traverse override	F0, F25, F50, F100	S	S	Self-diagnosis function		S	S
Feed per minute (mm/min)	G98	S	S	Alarm history display		S	S
Feed per revolution (mm/rev)	G99	S	S	Help function		S	S
Rapid traverse bell-shaped acceleration/deceleration		S	S	Run hour and parts count display		S	S
Feedrate override	0 - 150 %	S	S	Graphic function		S	S
Jog feed override	0 - 1,260 mm/min	S	S	Dynamic Graphic display		O	O
Program input				Multi-language display			
Tape code	EIA / ISO	S	S		English, German, French, Italian, Chinese, Spanish, Korean, Portuguese, Polish, Hungarian, Swedish, Russian	S	S
Optional block skip	9ea	S	S	Data input/output			
Program number	O4-Digits	S	S	Reader/Puncher interface CH1	RS232C	S	S
Sequence number	N8-Digits	S	S	Reader/Puncher interface CH2	RS232C	S	S
Decimal point programming		S	S	Ethernet interface	Embedded Ethernet	S	S
Coordinate system setting	G50	S	S	Memory card interface		S	S
Coordinate system shift		S	S	USB card interface		S	S
Workpiece coordinate system	G54 - G59	S	S	Others			
Workpiece coordinate system preset	G92.1	S	S	Display unit	10.4" Color LCD	S	S
Direct drawing dimension programming		S	S				
G code system	A	S	S				

## Hwacheon Global Network

 Hwacheon Headquarter  Hwacheon America  Hwacheon Europe  Hwacheon Asia



**HWACHEON**

Please call us for product inquiries.

[www.hwacheon.com](http://www.hwacheon.com)

The product design and specifications may change without prior notice.  
Read the operation manual carefully and thoroughly before operating the product,  
and always follow the safety instructions and warnings labels attached on the surfaces of the machines.

### HEAD OFFICE

#### HWACHEON MACHINE TOOL CO., LTD.

123-17, HANAMSANDAN 4BEON-RO, GWANGSAN-GU, GWANGJU, KOREA  
TEL: +82-62-951-5111 FAX: +82-62-951-0086

### SEOUL OFFICE

46, BANGBAE-RO, SEOCHO-GU, SEOUL, KOREA  
TEL: +82-2-523-7766 FAX: +82-2-523-2867

### USA

#### HWACHEON MACHINERY AMERICA, INC.

555 BOND STREET, LINCOLNSHIRE, ILLINOIS, 60069, USA  
TEL: +1-847-573-0100 FAX: +1-847-573-9900

### SINGAPORE

#### HWACHEON ASIA PACIFIC PTE. LTD.

21 BUKIT BATOK CRESCENT, #08-79 WCEGA TOWER SINGAPORE 658065  
TEL: +65-6515-4357 FAX: +65-6515-4358

### GERMANY

#### HWACHEON MACHINERY EUROPE GMBH

JOSEF-BAUMANN STR. 25, 44805, BOCHUM, GERMANY  
TEL: +49-234-912-816-0 FAX: +49-234-912-816-60