GBV SERIES

Boxway type Vertical machining center

5440 · 6540 · 7540 · 9550

SUZHOU GUDWAY CNC EQUIPMENT CO.,LTD

Add：No. 21 Xiexin Road, New District, Suzhou City, Jiangsu Province, China.
Tel：+86-0512-65580060
Email：info@gudwaycnc.com
Web：http://www.gudwaycnc.com

GBV Ⅱ series offers a wide line-up from 550 mm (21.7 inch) to 950 mm (37.4 inch) and various spindle enabling to meet the user to handle a wider range of workpieces. In addition, GBV series offers high durability, high performance to designed high rigidity. The Ez work functions for the user-friendliness has improved the convenience of customers.

GBV 7550

GBV 6550H

GBV 5440

USERS CAN BE SELECTED ACCORDING TO MATERIAL AND SIZE OF WORKPIECE

- Wide line-up from 550mm (21.7 inch) to 950mm (37.4 inch) and various spindle are available to meet material and size of workpiece.

HIGH PRODUCTIVITY AND STABLE PRECISION, POWERFUL CUTTING PERFORMANCE

- High-rigidity machine structure provides high durability and stable accuracy during heavy duty cutting.
- Higher productivity can be achieved with the CAM-type tool changer that supports faster tool changing.

EASY OPERATION FOR IMPROVING CONVINIENCE TO USE NC SYSTEM

- Easy operation for user's convenient machine operation.
- The Ez work functions for the user-friendliness has improved the convenience of customers.

BASIC STRUCTURE

The GBV II series offers a wide line-up. High-rigidity machine structure provides high durability and stable accuracy during heavy duty cutting.

Travel distance (X / Y / Z axis)

GBV 5440 , GBV 5450H

1020 / 550 / 530 mm
40.2 / 21.7 / 20.9 inch

GBV 6540 , GBV 6550H

1270 / 670 / 625 mm
50.0 / 26.4 / 24.6 inch

GBV 7540 , GBV 7550

1525 / 770 / 625 mm
60.0 / 30.3 / 24.6 inch

GBV 9550

2500 / 950 / 850 mm
98.4 / 37.4 / 33.5 inch

GBV 5440, GBV 6540

AXIS SYSTEM

Applied a highly rigid box guideway structure suitable for heavy cutting.
The extended box-type guideways improve the machine durability as well as rigidity and stability.

Rapid traverser rate (X / Y / Z axis)

GBV 5 4 4 0 , GBV 5 4 5 0 H
GBV 6540, GBV 6550H
GBV 7540 , GBV 7550

30 / 30 / 24 m/min
1181.1 / 1181.1 / 944.9 ipm

GBV 9550

16 / 16 / 16 m/min
629.9 / 629.9 / 629.9 ipm

Surface Finish

The surface of moving elements are coated with Rulon 142 material to reduce friction and stick-slip. This material is carefully hand-scraped to achieve optimum accuracy.

SPINDLE

Users can select spindles of various driving systems and specifications according to the workpiece material.

Drive Systems

The GBV series spindles support Direct-driven, Belt-driven, Gear-driven, Built in-driven systems. Dual contact tool system support as standard.

Models	Taper	Standard	Optional
GBV 5440 *** GBV 6540 *** GBV 7540 ***	ISO #40	8000r/min (15/11 kW (20.1/14.8 Hp), 286.5 N·m (211.4 ft-lbs))	12000r/min (15.6 kW (20.9 Hp), 165.5 N·m (122.1 ft-lbs))
GBV 5450H GBV 6550H	ISO #50	6000r/min (15/11 kW (20.1/14.8 Hp), 286.4 N·m (211.4 ft-lbs))	6000r/min (18.5/15 kW (24.8/20.1 Hp), 307.2 N·m (226.7 ft-lbs))
			6000r/min* (30/18.5 kW (40.2/24.8 Hp), 617.4 N·m (455.6 ft-lbs))
			8000r/min (15/11 kW (20.1/14.8 Hp), 286.4 N·m (211.4 ft-lbs))
GBV 7550	ISO #50	6000r/min (18.5/15 kW (24.8/20.1 Hp), 307.2 N·m (226.7 ft-lbs))	6000r/min (22/18.5 kW (29.5/24.8 Hp), 365.5 N·m (269.7 ft-lbs))
			6000r/min* (30/18.5 kW (40.2/24.8 Hp), 617.4 N·m (455.6 ft-lbs))
			8000r/min (15/11 kW (20.1/14.8 Hp), 286.4 N·m (211.4 ft-lbs))
GBV 9550	ISO #50	6000r/min* (30/18.5 kW (40.2/24.8 Hp), 617.4 N·m (455.6 ft-lbs))	10000r/min** (30/25 kW (40.2/33.5 Hp), 420 N·m (310.0 ft-lbs))

None : Belt-driven * :Gear-driven ** : Built in-driven *** : Direct-driven

GBV 9550 Gear-driven spindles

Dual Contact Spindle

The system enables simultaneous dual-contact of tapered side using elastic deformation of the spindle and perfect gauge control.

TABLE

GBV Series offers an optimized table for machine line up enabling to meet the user to handle a wider range of workpieces.

Max weight on Table

GBV 5400 Ⅱ, GBV 5400/50Ⅱ

1000 kg 2204.6 lb

GBV 6500 Ⅱ, GBV 6500/50 Ⅱ

1300 kg 2866.0 lb

GBV 7500Ⅱ , GBV 7500/50Ⅱ

1500 kg 3306.9 lb

GBV 9500

3500 kg 7716.1 lb

Table size (A x B)

GBV 5400 Ⅱ, GBV 5400/50 Ⅱ

1200 x 540 mm 47.2 x 21.3 inch

GBV 6500 Ⅱ, GBV 6500/50 Ⅱ

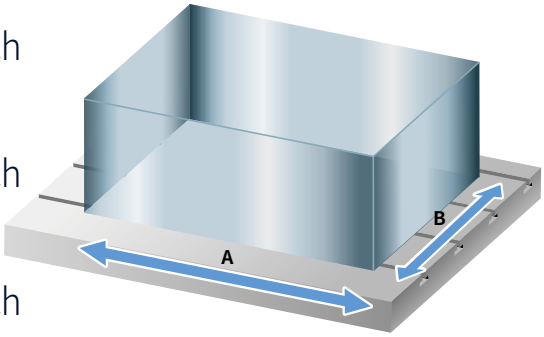
1400 x 670 mm 55.1 x 26.4 inch

GBV 7500Ⅱ, GBV 7500/50 Ⅱ

1600 x 750 mm 63.0 x 29.5 inch

GBV 9500

2500 x 950 mm 98.4 x 37.4 inch



MACHINING PERFORMANCE

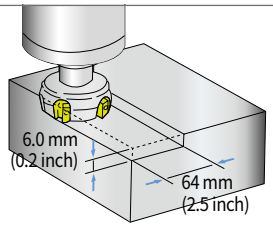
The heavy-duty machining performance of the GBV II series spindles is the best in its class.

ISO #40

Result of cutting test on GBV 5440 (8000r/min, Direct, 15/11kW (20.1/14.8 Hp))

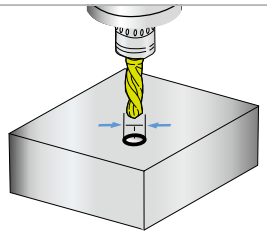
Face mill (ø80 mm, Cut edge count :6) Carbon steel (SM45C)

Machining rate (cm^3/min(in^3/min))	Spindle speed (r/min)	Feedrate (mm/min (ipm))
374.4 (22.8)	500	1950 (76.8)



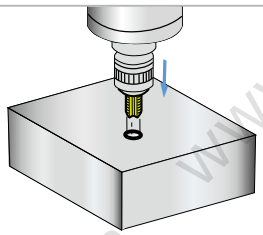
Drill (ø50 mm) Carbon steel (SM45C)

Machining rate (cm^3/min(in^3/min))	Spindle speed (r/min)	Feedrate (mm/min (ipm))
265.07 (16.2)	500	135 (5.3)



Tap Carbon steel (SM45C)

Tap size (mm (inch))	Spindle speed (r/min)	Feedrate (mm/min (ipm))
M36 x P4.0 (M1.4 x P0.2)	265	1060 (41.7)



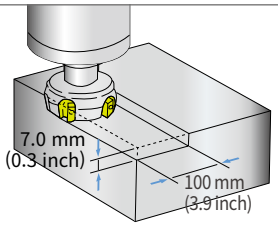
** The results, indicated in this catalogue are provides as example. They may not be obtained due to differences in cutting conditions and environmental conditions during measurement.*

ISO #50

Result of cutting test on GBV 9550 (6000r/min, Gear, 30/18.5kW (40.2/24.8 Hp))

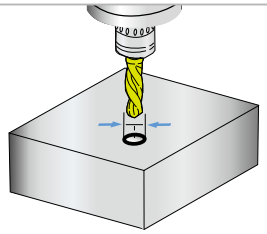
Face mill (ø125 mm,Cut edge count :8) Carbon steel (SM45C)

Machining rate (cm^3/min(in^3/min))	Spindle speed (r/min)	Feedrate (mm/min (ipm))
756 (46.1)	464	1080 (42.5)



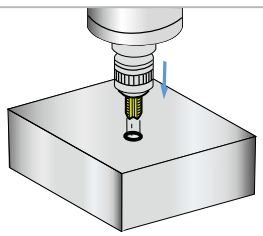
Drill (ø85 mm) Carbon steel (SM45C)

Machining rate (cm^3/min(in^3/min))	Spindle speed (r/min)	Feedrate (mm/min (ipm))
510 (31.1)	562	90 (3.5)



Tap Carbon steel (SM45C)

Tap size (mm (inch))	Spindle speed (r/min)	Feedrate (mm/min (ipm))
M42 x P4.5 (M1.7 x P0.2)	100	450 (17.7)



* *The results, indicated in this catalogue are provides as example. They may not be obtained due to differences in cutting conditions and environmental conditions during measurement.*

TOOL CHANGER

Higher productivity can be achieved with the CAM-type tool changer that supports faster tool changing.

Chain type CAM magazine

Drum-type CAM magazine

Tool storage capacity

GBV 5440 , GBV 6540, GBV 7540

30 a

40 ea option

GBV 5450h

24 ea

GBV 6550H

24 ea

30 ea* option

GBV 7550

24 ea

40 ea* option

GBV 9550

30 ea*

40 ea* option

None : Drum-type CAM magazine * : Chain type CAM magazine (Servo type)

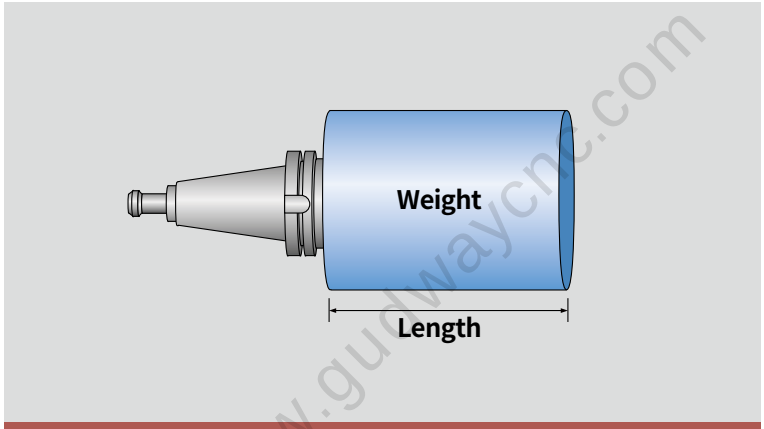
Taper

GBV 5440, GBV 6540, GBV 7540

ISO #40

GBV 5450H, GBV 6550H
GBV 8550H GBV 9550

ISO #50



Automatic tool changer

Automatic tool changer

Models	Taper	Tool Change Time		Max. Tool Size	
		T-T-T	C-T-C	Length	Weight
GBV 5440	ISO #40	1.3 s	3.7 s	300mm (11.8 inch)	8kg (17.6 lb)
GBV 6540					
GBV 7540					
GBV 5450H	ISO #50	2.5 s	5.5 s	350mm (13.8 inch)	20kg (33.1 lb)
GBV 6550H					
GBV 7550					
GBV 9550					

STANDARD | OPTIONAL SPECIFICATIONS

A range of options is available to suit individual requirements.

Description	Features			GBV 5440 SIEMENS	GBV 5450H SIEMENS	GBV 6540 SIEMENS	GBV 6550H SIEMENS	GBV 7540 SIEMENS	GBV 7550 SIEMENS	GBV 9550 SIEMENS
Spindle	6000 r/min	Belt**	15/11 kW	X	●	X	●	X	X	X
			18.5/15 kW	X	○	X	○	X	●	X
			22/18.5 kW	X	X	X	X	X	○	X
		Gear*	30/18.5 kW	X	○	X	○	X	○	●
	8000 r/min	Direct	15/11 kW	●	X	●	X	●	X	X
		Belt*	15/11 kW	X	○	X	○	X	○	X
	10000 r/min	Built in*	15.6 kW	X	X	X	X	X	X	○
	12000 r/min	Direct*	15.6/15.6 kW	○	X	○	X	○	X	X
Spindle cooling system(Oil cooler)	6000 r/min	Belt*		X	○	X	○	X	○	X
		Gear*		X	●	X	●	X	●	●
	8000 r/min	Direct*		○	X	○	X	○	X	X
		Belt*		X	●	X	●	X	●	X
	10000 r/min	Built in*		X	X	X	X	X	X	●
	12000 r/min	Direct*		●	X	●	X	●	X	X
Magazine	Tool storage capacity	24ea		X	●	X	●	X	●	X
		30ea		●	X	●	○	●	X	●
		40ea		○	X	○	X	○	○	○
Tool shank type	ISO #40	BIG PLUS BT40		●	X	●	X	●	X	X
		BIG PLUS CAT40		○	X	○	X	○	X	X
		BIG PLUS DIN40		○	X	○	X	○	X	X
	ISO #50	BIG PLUS BT50		X	●	X	●	X	●	●
		BIG PLUS CAT50		X	○	X	○	X	○	○
		BIG PLUS DIN50		X	○	X	○	X	○	○
Coolant	FLOOD	0.15 MPa (0.4 kW)		●	●	●	●	●	●	●
		0.7 MPa (1.8 kW)		○	○	○	○	○	○	○
	TSC	None		●	●	●	●	●	●	●
		2 MPa (1.5kW)		○	○	○	○	○	○	○
		2 MPa (4.0 kW)		○	○	○	○	○	○	○
		7 MPa (5.5 kW)		○	○	○	○	○	○	○
	SHOWER	0.1 MPa (1.1 kW)		○	○	○	○	○	○	○
	Oil Skimmer	Belt type		○	○	○	○	○	○	○
	MQL			○	○	○	○	○	○	○
Chip disposal	Chip pan			●	●	●	●	●	●	●
	Chip conveyor	TYPE	HINGED PLATE	○	○	○	○	○	○	○
			MAGNETIC SCRAPER	○	○	○	○	○	○	○
		OUTLET DIRECTION	RIGHT SIDE/LEFT SIDE	○	○	○	○	○	○	○
	Chip bucket	CAPACITY	220 / 300 / 380	○	○	○	○	○	○	○
		TYPE	ROTATION / FORKLIFT	○	○	○	○	○	○	○
Precision machining option	Smart Thermal Compensation		Sensorless type***	●	●	●	●	●	●	●
	Linear scale	X / Y / Zaxis		○	○	○	○	○	○	○
	AICC II (200 block)			●	●	●	●	●	●	●
Measurement & Automation	Automatic tool measurement	TS27R		○	○	○	○	○	○	○
		OTS		○	○	○	○	○	○	○
	Automatic tool breakage detection			○	○	○	○	○	○	○
	Automatic workpiece measurement	OMP60		○	○	○	○	○	○	○
	Automatic front door with safety device			○	○	○	○	○	○	○
Accessories	WORK LIGHT	LED LAMP		●	●	●	●	●	●	●
	OPERATOR CALL LAMP	3-COLOR SIGNAL TOWER(LED)		●	●	●	●	●	●	●
	SMART THERMAL CONTROL	SENSORLESS TYPE (ONLY SPINDLE)		●	●	●	●	●	●	●
	ASSEMBLY & OPERATION TOOLS KIT			●	●	●	●	●	●	●
	AIR BLOWER			○	○	○	○	○	○	○
	4TH AXIS PREPARATION CABLING FOR SERVO/1-PNEUMATIC PIPING	FACTORY READY MADE		○	○	○	○	○	○	○
	AIR GUN			○	○	○	○	○	○	○
	Coolant gun			○	○	○	○	○	○	○
	Mist collector			○	○	○	○	○	○	○
Customized special option	ANCHORING(1)			○	○	○	○	○	○	○
	COOLANT CHILLER(2)			○	○	○	○	○	○	○
	TSA(3)	0.54 MPa		○	○	○	○	○	○	○
	FEEDBACK SYSTEM	HEIDENHAIN		○	○	○	○	○	○	○
	RAISING BLOCK	150 / 200 / 300 mm		○	○	○	○	○	○	○
	SIDE AUTO DOOR	680 X 1000 (W X H) SET		○	○	○	○	○	○	○
	AWC	8PALLET		○	○	○	○	○	○	○
	AUTO TOOL LENGTH MEASUREMEMT	RENISHAW / LTS		○	○	○	○	○	○	○
	AUTO TOOL BREAKAGE DETECTION	MSC/BK9(NEEDLE TYPE ON MAGAZINE)		○	○	○	○	○	○	○

*Spindle cooling system (Oil cooler) is standard **Spindle cooling system (Oil cooler) is option ***Sensorless type (only Spindle) (GBV 5400~7500II)

● Standard ○ Optional x Not applicable

※ Please contact us to select detail specifications.

(1) Please refer to foundation drawing in relation to anchoring. If more detail information want, consult with us service

(2) In case of using neat cutting oil, this device is highly recommended in order to reduce the change of accuracy by rising the coolant temperatures.

(3) In case of TSC is not required and only TSA is needed, this option can be selected.

⚠ Fire Safety Precautions | There is a high risk of fire when using non-water-soluble cutting fluids, processing flammable materials, neglecting the controlled and careful use of coolants and modifying the machine without the consent of the manufacturer. Always check the SAFETY GUIDELINES carefully before using the machine.

PERIPHERAL EQUIPMENT

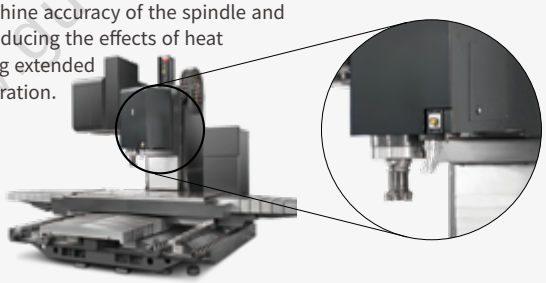
Linear Scale option

Using the linear scale feedback system, accuracy of the machine can be further improved since the X, Y and Z axes can be controlled to correct positions.

Resolution : 0.001 mm

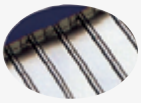
Smart thermal compensation (GBV 9550 only)

Smart thermal compensation function fitted as stadard optimizes machine accuracy of the spindle and structure by reducing the effects of heat build-up during extended periods of operation.



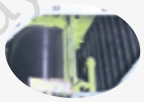
Chip conveyor option

Hinged type



Magnetic scraper type

Drum filter type



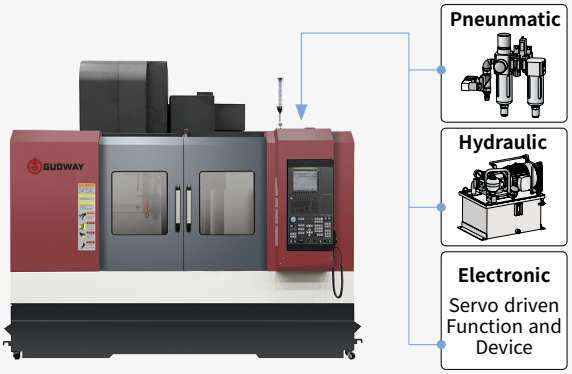
Chip conveyor type	Material	Description
Hinged type	Steel	Hinged belt chip conveyor, which is most commonly used for steel work [for cleaning chips longer than 30mm(1.2inch)], is available as an option.
Magnetic scraper type	Cast Iron	Magnetic scraper type chip conveyor, which is ideal for die-casting work [for cleaning small chips], is available as an option.
Drum filter type	Aluminium	Drum filter type chip conveyor, which is ideal for aluminium work [for filtering small chips], is available as an option.

Oil Cooler option

An oil cooler correlated to room temperature can be equipped for a long-term operation at high speed. Cooling oil circulates around the spindle bearings to prevent thermal error of the spindle and maintain machining accuracy.

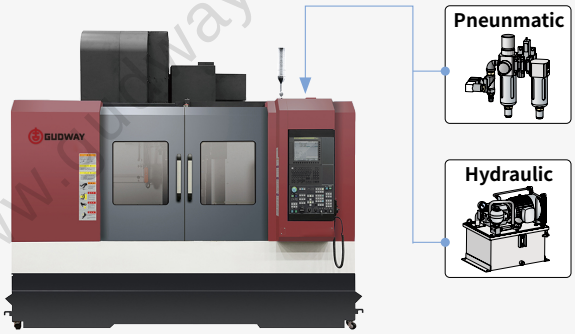
4th axis auxiliary device interface option

Users who wish to set up a rotary axis on the table to increase application flexibility are encouraged to contact us in advance.



Hydraulic / Pneumatic fixture line option

The user should prepare pipelines for hydraulic / pneumatic fixtures whose detailed specifications should be determined by discussion with us.



AWC system option

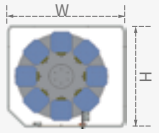
The optimized solution to realize compact automation system

through automatic work-piece change system.

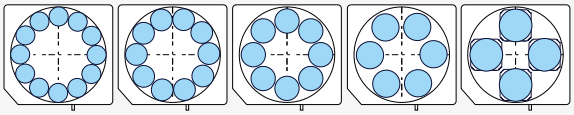
Max. workpiece dimensions	Unit	Count	Max. loading	Max. construction height on the pallet
250 x 250 (9.8x9.8) or ø 300 (11.8)	mm (inch)	12	130kg (286.6lb)	350mm (13.8inch)
320 x 320 (12.6x12.6) or ø 360 (14.2)	mm (inch)	10	250kg (551.1lb)	
350 x 350 (13.8x13.8) or ø 400 (15.7)	mm (inch)	8		
400 x 400 (15.7x15.7) or ø 450 (17.7)	mm (inch)	6		
500 x 500 (19.7x19.7) or ø 550 (21.7)	mm (inch)	4		

Pallet Storage–Table Configuration

Unit : mm (inch)



W X H = 1,900 X 1,700



250 X 250 (9.8 X 9.8) | 320 X 320 (12.6 X 12.6) | 350 X 350 (13.8 X 13.8) | 400 X 400 (15.7 X 15.7) | 500 X 500 (19.7 X 19.7)

FANUC i PLUS

Fanuc i Plus is optimized for maximizing customer productivity and convenience.

15 inch screen + new operation panel

Fanuc i Plus' operation panel enhances operating convenience by incorporating common-design buttons and layout, and features the Qwerty keyboard for fast and easy operation.

Fanuc i Plus

- 15 inch color display
- Intuitive and user-friendly design

USB & PCMCIA card

QWERTY keyboard

- EZ-guide i standard
- Ergonimic operator panel
- 2MB Memory
- Hot key

iHMI touchscreen option

iHMI provides an intuitive interface that uses a touchscreen for quick and easy operation.

Range of applications

Providing various applications related to planning, machining, improvement and utility, for customer convenience.

NUMERIC CONTROL SPECIFICATIONS

Item		Specifications	Fanuc i (0i Plus) GBV **4digit**
Controlled axis	Controlled axes		3 (X,Y,Z)
	Simultaneously controlled axes		4 axes
	Additional controlled Axis	Add 1 Axis (5th Axis)	●
Data input/output	Fast data server		○
	Memory card input/output		●
	USB memory input/output		●
	Large capacity memory(2GB)*2	Available Option only with 15” Touch LCD (iHMI Only) *2)	○
Interface function	Embedded Ethernet		●
	Fast Ethernet		○
	Enhanced Embedded Ethernet function		●
Operation	DNC operation	Included in RS232C interface.	●
	DNC operation with memory card		●
Program input	Workpiece coordinate system	G52 - G59	●
	Addition of workpiece coordinate system	G54.1 P1 X 48 (48 pairs)	●
	Tool number command		T4 digits
	Tilted working plane indexing command	G68.2 TWP	○
Feed function	AI contour control I	G5.1 Q_, 40 Blocks	X
	AI contour control II	G5.1 Q_, 200 Blocks	●
	AI contour control II	G5.1 Q_, 600 Blocks	X
	AI contour control II	G5.1 Q_, 1000 Blocks *1)	X
	High smooth TCP		X
Operation guidance function	EZ Guidei (Conversational Programming Solution)		●
	iHMI with Machining Cycle	Only with 15” Touch LCD standard *2)	X
	EZ Operation package		●
Setting and display	CNC screen dual display function		●
Network	FANUC MTConnect		✪
	FANUC OPC UA		✪
Others	Display unit	10.4" color LCD	X
		15" color LCD	X
		15" color LCD with Touch Panel	●
	Part program storage size & Number of registerable programs	640M(256KB)_500 programs	X
		1280M(512KB)_1000 programs	X
		2560M(1MB)_1000 programs	X
		5120M(2MB)_1000 programs	●
		10240M(4MB)_1000 programs	X
		20480M(8MB)_1000 programs	X
		2560M(1MB)_2000 programs	X
		5120M(2MB)_4000 programs	X
		10240M(4MB)_4000 programs	X
		20480M(8MB)_4000 programs	X

*1) The number of look-ahead blocks may be changed or limited depending on the peripheral device or the configuration of the internal NC system.
*2) Available Option only with Fanuc i plus iHMI

● *Standard* ○ *Optional* X *N/A* ✪ *Available*

Network: FANUC MT Connect and FANUC OPC UA available.

EZ WORK

The software provides a range of different functions designed for fast, efficient and convenient operation.

EZ work

The EZ work package delivers speed and efficiency. This menu-driven innovation not only helps customers reduce setup times, but also simplifies common tasks and procedures, reducing the potential for errors. EZ work reduces operating time, protects machinery, enhances quality and speeds up maintenance interventions.

Thermal Compensation

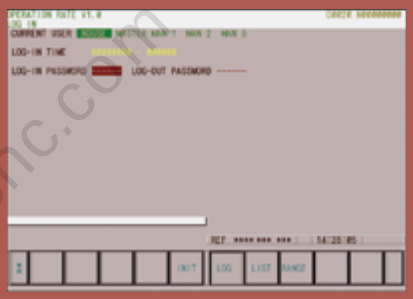
A function to maintain high-precision machining quality by analyzing and correcting the amount of thermal displacement of a structure through a temperature sensor

M/G-Code List

Functional description of M code and G code

Tool Management

Function to manage tool information [Tool information / Tool No. / Tool condition (normal, large diameter, worn / damaged, used for the rst time, manual) / Tool name]



Operation Rate

Machine operation history management function by date based on load

Adaptive Feed Control

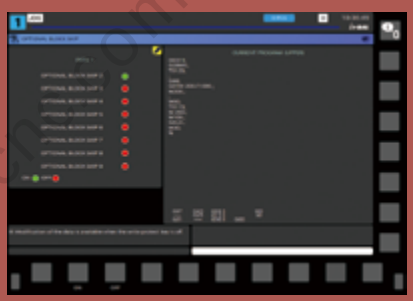
Function to control feedrate so that the cutting can be carried out at a constant load (To adapt to the spindle load set up with constant load feedrate control function)

Spindle Warm Up

A function that assists spindle warm-up for spindle life when the spindle has not been used for a certain period of time

ATC Recovery

Function to view detailed info with recommended actions and to perform step-by-step operation manually (when an alarm is triggered during an ATC operation)



Addition of Optional Block Skip

In addition to the OPTIONAL BLOCK SKIP of the operation panel, the function to skip a specific block selected in the machining program

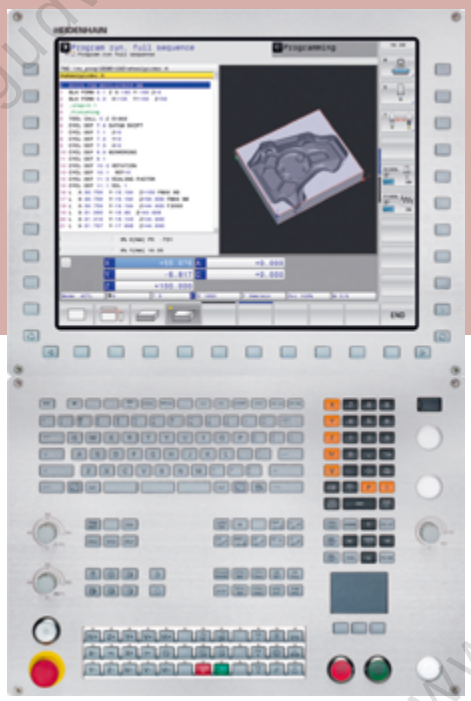
CONVENIENT OPERATION

HEIDENHAIN TNC620

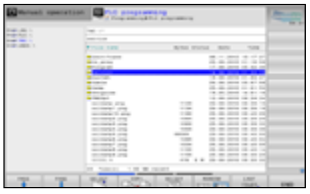
Superior hardware specifications

The TNC 620 features optimized motion control, short block processing times and special control strategies. Together with its uniform digital design and its integrated digital drive control (including inverters), it enables you to achieve high machining speeds and the best possible contour accuracy.

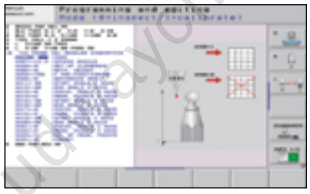
- 15.6" display
- 21GB Storage memory
- 1024 look ahead blocks
- High user convenience with folder structure data management



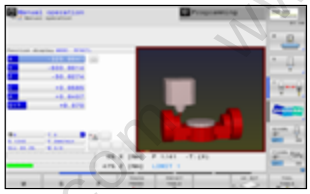
Conversational convenient function



Data are controlled in the folder structure; convenient communication via USB devices



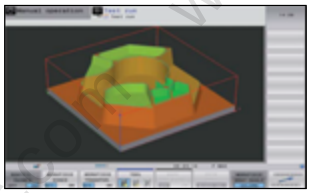
KinematicOpt & KinematicComp option
(Touch probe cycle for automatic measurement)



Collision protection system option

Adaptive feed control option

Various built-in pattern cycles for a wider scope of application (Software standard)



Graphic simulation

NUMERIC CONTROL SPECIFICATIONS

HEIDENHAIN

Item		Specifications	TNC620 GBV series
Controlled axis	Controlled axis		3 (X,Y,Z)
	Simultaneously controlled axis		4 axis
Data input/output	USB memory input/output		●
Interface function	Embedded ethernet		●
Feed function	Look-ahead	5000 blocks	●
Axis compensation	KinematicsOpt	Automatic measurement and optimization of machine kinematics	○
Collision monitoring	Dynamic collision monitoring (DCM)		X
Network	MTConnect		✪
Others	Display unit	15.1 inch TFT color flat panel	●
		15.1 inch TFT color with Touch Panel	○
		19 inch TFT color flat panel	○
		19 inch TFT color with Touch Panel	○
	Part program storage size & number of registerable programs	21GB	X
		1.8GB	●

● *Standard* ○ *Optional* X *Not Available* ✪ *Available*

CONVENIENT OPERATION

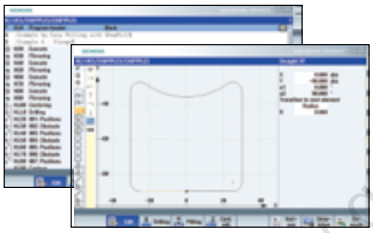
SIEMENS 828D

15.6” screen + new operation panel

The newly-designed operation panel improves the customer convenience by incorporating and using common-design buttons and layouts, and includes the familiar QWERTY keyboard for fast and easy operation.

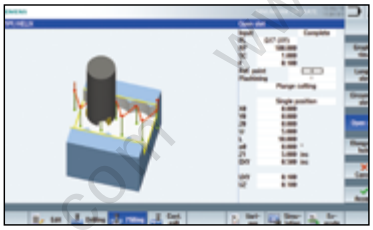
- 15.6" display
- 10MB high capacity user memory
- USB & ethernet (standard)
- QWERTY keyboard (standard)
- High-speed calculation and simulation can be fulfilled by improved processor functionality

Conversational convenient function

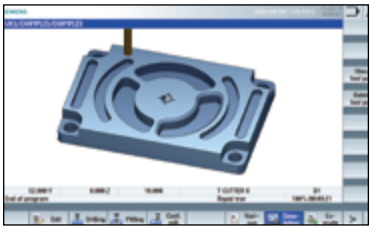


Shop Mill Part Programming

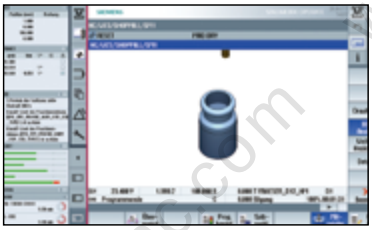
Smart function



Advanced program language programGUIDE



Simulation and machining contour monitoring



Side screen widget

NUMERIC CONTROL SPECIFICATIONS

SIEMENS

	Item	Specifications	S840D GBV	S828D GBV
Controlled axis	Controlled axes	-	3 axis	3 axis
	Simultaneously controlled axes	-	3 axis	3 axis
Data input/output	Memory card input/output	(Local drive)	●	X
	USB memory input/output		●	X
Interface function	Ethernet	(X130)	●	●
Operation	On network drive	(without EES option, Extcall)	●	○
	On USB storage medium, e.g. memory stick	(without EES option, Extcall)	●	●
Program input	Workpiece coordinate system	G54 - G57	●	●
	Addition of workpiece coordinate system	G505 - G599	●	●
Interpolation & Feed function	Advanced surface		●	●
	Top surface		○	○
	Look ahead number of block	S/W version 4.8	1000	450
Programming & Editing function	3D simulation, finished part		●	●
	Simultaneous recording		●	●
	Measure kinematics		X	X
	DXF Reader for PC integrated in SINUMERIK Operate		○	○
Operation Guidance Function	ShopMill		●	●
	EZ Work		●	●
Setting and display	Operation via a VNC viewer		●	●
Network	MTConnect		✪	✪
	OPCUA		○	○
Etc. function	15.6" color display with touch screen		●	●
	19" color display without touch screen		○	X
	21.5" color display with touch screen		○	X
	CNC user memory	10 MB	●	●
	Expansion by increments	2 ~ 12 MB	○	○
	Collision avoidance		○	X
	Collision avoidance ECO (machine, working area)		○	X

● *Standard* ○ *Optional* X *Not Available* ✪ *Available*

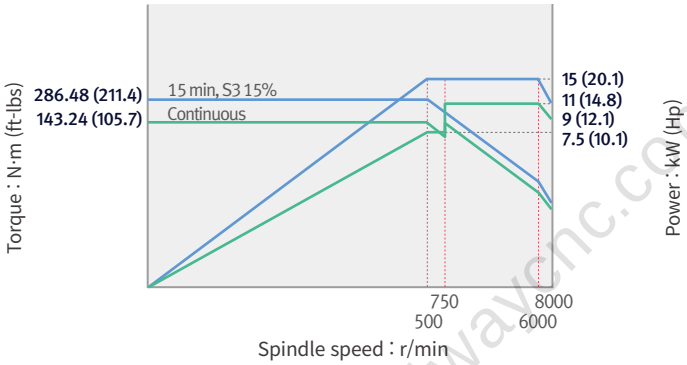
POWER | TORQUE

FANUC

GBV 5440, GBV 6540, GBV 7540

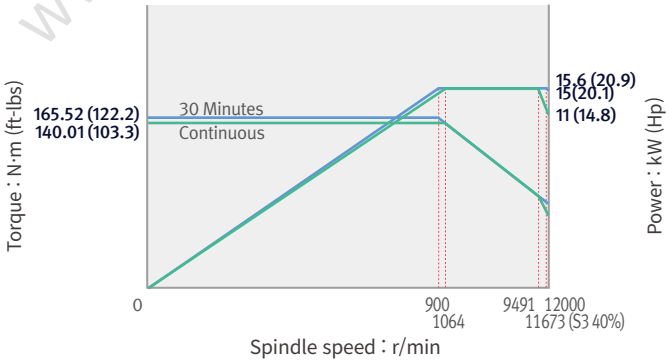
8000 r/min, Direct

Motor power : 15/11 kW (20.1/14.8 Hp)
Torque : 286.5 N·m (211.4 ft-lbs)



12000 r/min, Direct option

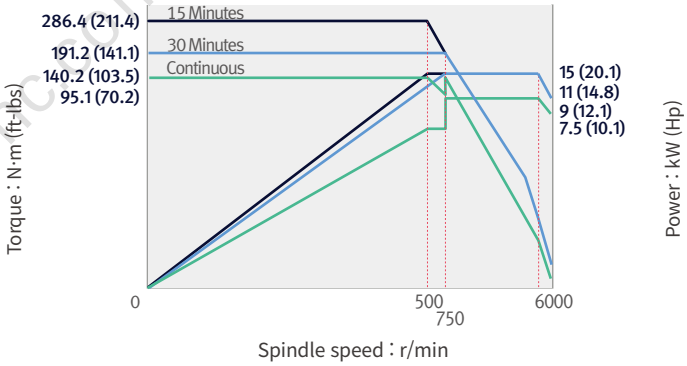
Motor power : 15.6 kW (20.9 Hp)
Torque : 165.5 N·m (122.1 ft-lbs)



GBV 5450H, GBV 6550H

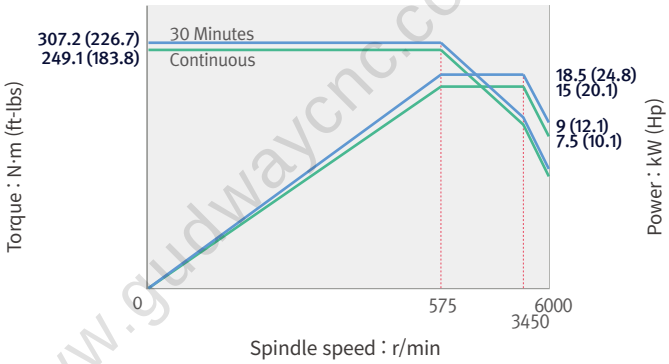
6000 r/min, Belt

Motor power : 15/11 kW (20.1/14.8 Hp)
Torque : 286.4 N·m (211.4 ft-lbs)



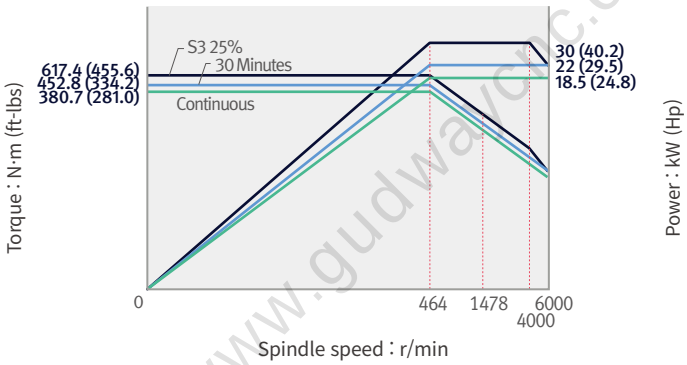
6000 r/min, Belt option

Motor power : 18.5/15 kW (24.8/20.1 Hp)
Torque : 307.2 N·m (226.7 ft-lbs)



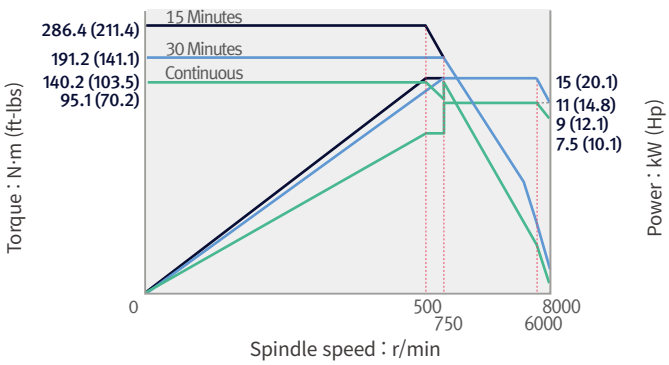
6000 r/min, Gear option

Motor power : 30/18.5 kW (40.2/24.8 Hp)
Torque : 617.4 N·m (455.6 ft-lbs)



8000 r/min, Belt option

Motor power : 15/11 kW (20.1/14.8 Hp)
Torque : 286.4 N·m (211.4 ft-lbs)



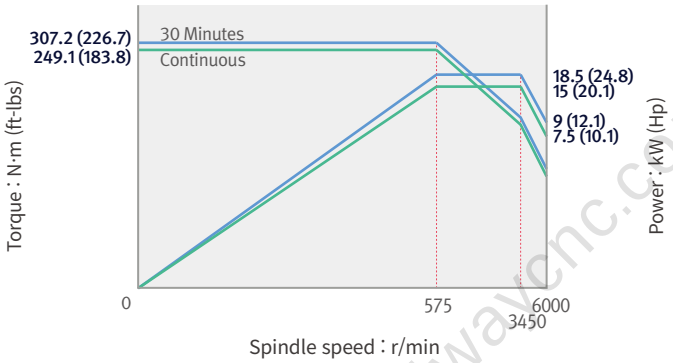
POWER | TORQUE

FANUC

GBV 7550

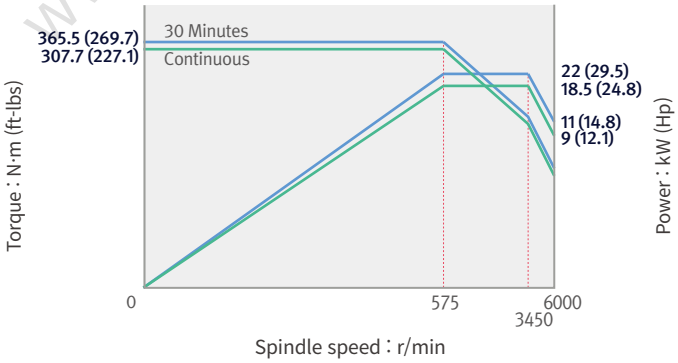
6000 r/min, Belt

Motor power : 18.5/15 kW (24.8/20.1 Hp)
Torque : 307.2 N·m (226.7 ft-lbs)



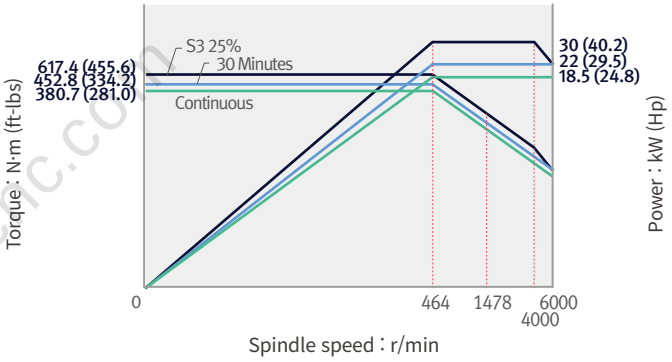
6000 r/min, Belt option

Motor power : 22/18.5 kW (29.5/24.8 Hp)
Torque : 365.5 N·m (269.7 ft-lbs)



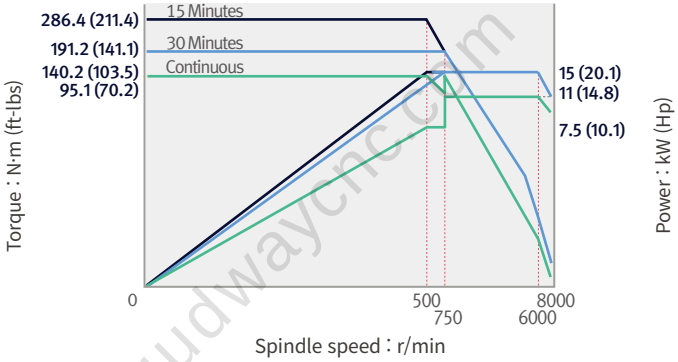
6000 r/min, Gear option

Motor power : 30/18.5 kW (40.2/24.8 Hp)
Torque : 617.4 N·m (455.6 ft-lbs)



8000 r/min, Belt option

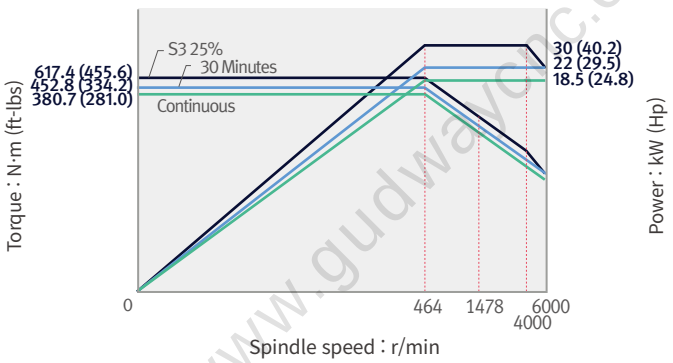
Motor power : 15/11 kW (20.1/14.8 Hp)
Torque : 286.4 N·m (211.4 ft-lbs)



GBV 9550

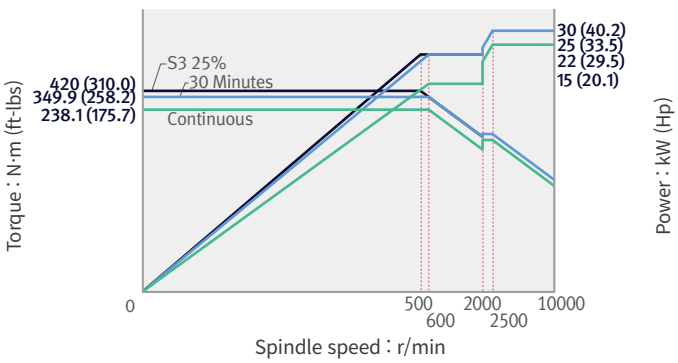
6000 r/min, Gear

Motor power : 30/18.5 kW (40.2/24.8 Hp)
Torque : 617.4 N·m (455.6 ft-lbs)



10000 r/min, Built in option

Motor power : 30/25 kW (40.2/33.5 Hp)
Torque : 420 N·m (310.0 ft-lbs)

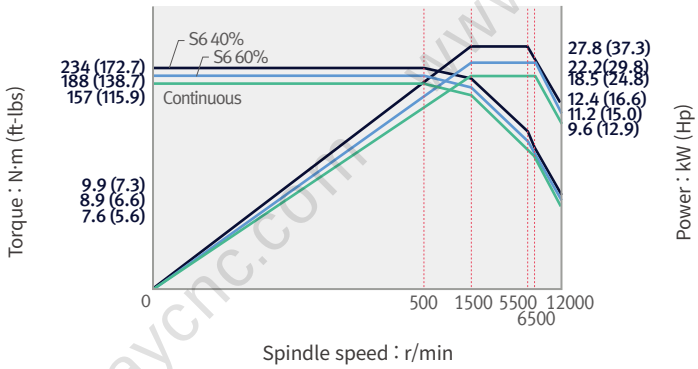


POWER | TORQUE

SIEMENS

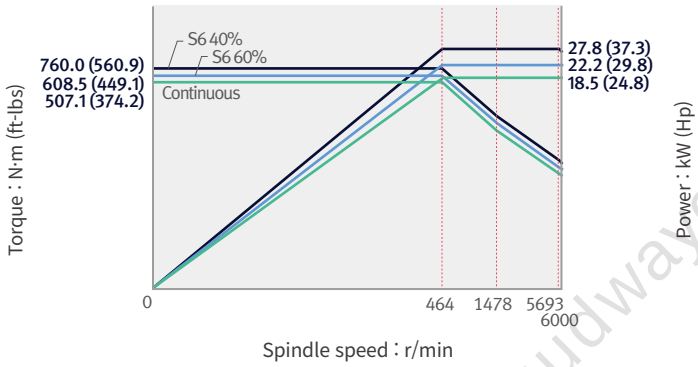
12000 r/min, Direct

Motor power：27.8 /18.5 kW (37.3/24.8 Hp)
Torque：234.0 N·m (172.7 ft-lbs)



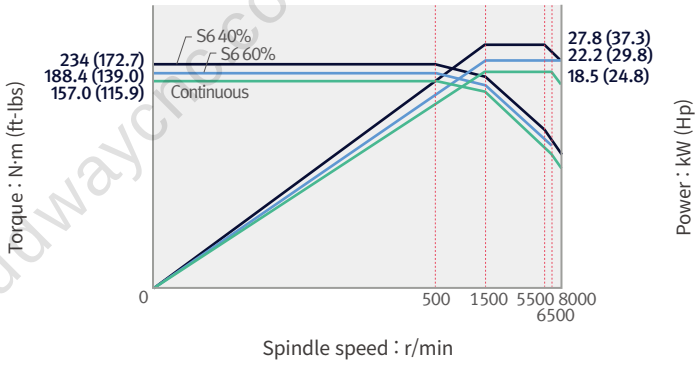
6000 r/min, Gear

Motor power：27.8 /18.5 kW (37.3/24.8 Hp)
Torque：760.0 N·m (560.9 ft-lbs)



8000 r/min, Belt

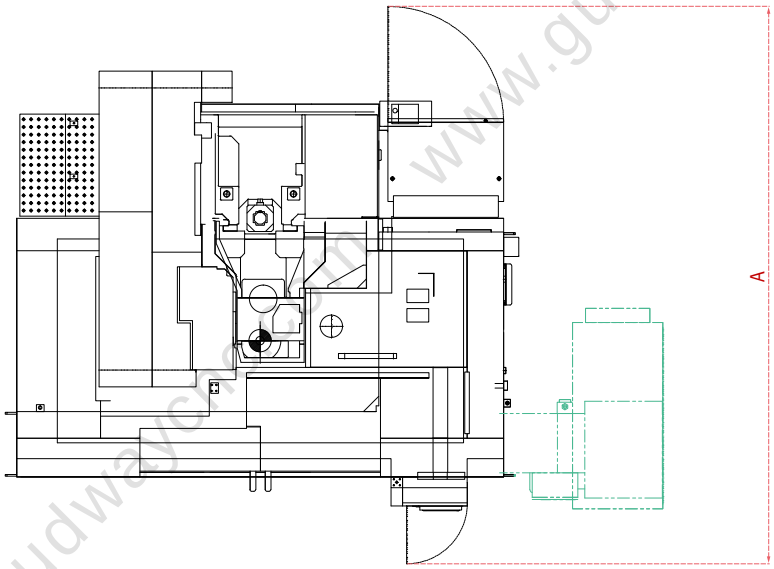
Motor power：27.8 /18.5 kW (37.3/24.8 Hp)
Torque：234.0 N·m (172.7 ft-lbs)



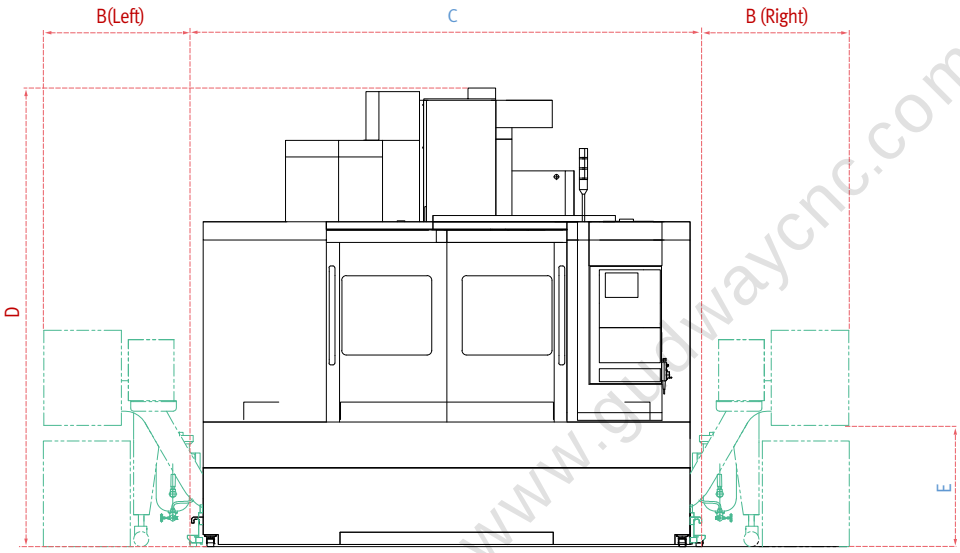
DIMENSIONS

Units : mm (inch)

TOP



FRONT



	A (Max. machine length)	B* (Additional width to accommodate the side chip conveyor)	C (Max. machine width)	D (Max. machine height)	E (Height from the floor to the chip outlet)
GBV 5440	3450 (135.8)	Left & Right : 930 (36.6)	3350 (131.9)	3020 (118.9)	830 (32.7)
GBV 5450H	3450 (135.8)	Left & Right : 930 (36.6)	3350 (131.9)	2920 (115.0)	830 (32.7)
GBV 6540	3670 (144.5)	Left & Right : 930 (36.6)	3350 (131.9)	3110 (122.4)	830 (32.7)
GBV 6550H	3670 (144.5)	Left & Right : 930 (36.6)	3350 (131.9)	3020 (118.9)	830 (32.7)
GBV 7540	4410 (173.6)	Left & Right : 1060 (41.7)	3900 (153.5)	3230 (127.2)	980 (38.6)
GBV 7550	4680 (184.3)	Left & Right : 1060 (41.7)	4050 (159.4)	3300 (129.9)	980 (38.6)
GBV 9550	5350 (210.6)	Left & Right : 1170 (46.1)	6560 (258.3)	3600 (141.7)	770 (30.3)

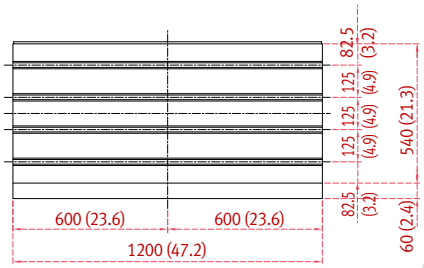
** Contact us for more information to rear chip conveyor.*

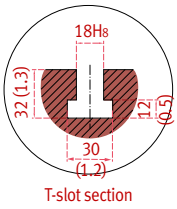
** Some peripheral equipment can be placed in other places*

TABLE DIMENSIONS

GBV 5440, GBV 5450

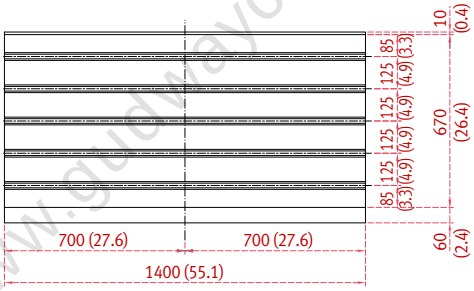
Units : mm (inch)

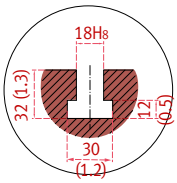




T-slot section

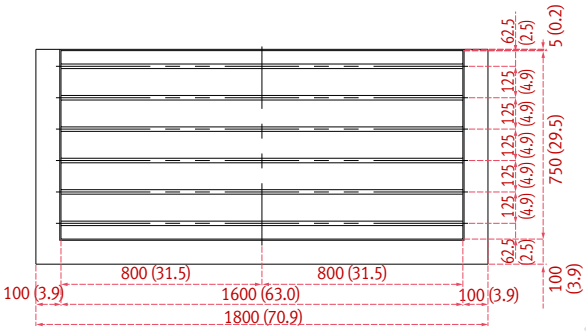
GBV 6540, GBV 6550H

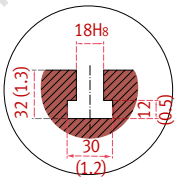




T-slot section

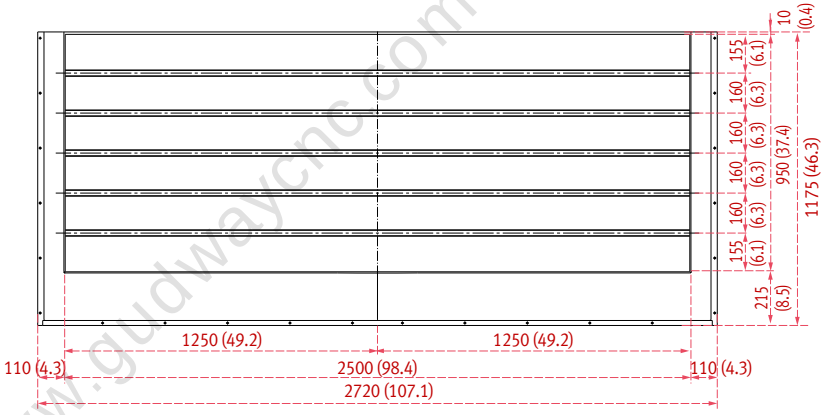
GBV 7540 GBV 7550

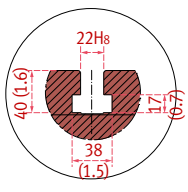




T-slot section

GBV 9550





T-slot section

MACHINE SPECIFICATIONS

Description			Unit	GBV 5440	GBV 5450H	GBV 6540	GBV 6550H	GBV 7540	GBV 7550	GBV 9550
Travels	Travel distance	X axis	mm (inch)	1020 (40.2)		1270 (50.0)		1525 (60.0)		2500 (98.4)
		Y axis	mm (inch)	550 (21.7)		670 (26.4)		770 (30.3)		950 (37.4)
		Z axis	mm (inch)	530 (20.9)		625 (24.6)		625 (24.6)		850 (33.5)
	Distance from spindle nose to table top		mm (inch)	150 ~ 680 (5.9~26.8)	200 ~ 730 (7.9~28.7)	150 ~ 775 (5.9~30.5)	200 ~ 825 (7.9~32.4)	150 ~ 775 (5.9~30.5)	200 ~ 825 (7.9~32.4)	200 ~ 1000 (7.9~39.4)
Table	Table size		mm (inch)	1200 x 540 (47.2 x 21.3)		1400 x 670 (55.1 x 26.4)		1600 x 750 (63.0 x 29.5)		2500 x 950 (98.4 x 37.4)
	Table loading capacity		kW (Hp)	1000 (1341.0)		1300 (1743.3)		1500 (2011.5)		3500 (4693.5)
	Table surface type		mm	T-SLOT (4-125 x 18H8)		T-SLOT (5-125 x 18H8)		T-SLOT (6-125 x 18H8)		T-SLOT (5-160 x 22H8)
Spindle	Max. spindle speed	Direct	r/min	8000 {12000}	-	8000 {12000}	-	8000 {12000}	-	-
		Belt	r/min	-	6000 {6000} {8000}	-	6000 {6000} {8000}	-	6000 {6000} {8000}	-
		Gear	r/min	-	{6000}	-	{6000}	-	{6000}	6000
		Built in	r/min	-	-	-	-	-	-	{10000}
	Taper		-	ISO #40	ISO #50	ISO #40	ISO #50	ISO #40	ISO #50	ISO #50
	Spindle power	Direct	kW (Hp)	15/11 {15.6} (20.1/14.8 {20.9})	-	15/11 {15.6} (20.1/14.8 {20.9})	-	15/11 {15.6} (20.1/14.8 {20.9})	-	-
		Belt	kW (Hp)	-	15/11 {18.5/15} {15/11} (20.1/14.8 {24.8/20.1} {20.1/14.8})	-	20/18.5 {18.5/18.5}{15/11} (26.8/24.8 {24.8/24.8} {20.1/14.8})	-	18.5/15 {22/18.5}{15/11} (24.8/18.5 {29.5/24.8} {20.1/14.8})	-
		Gear	kW (Hp)	-	{30/18.5} ({40.2/24.8})	-	{30/18.5} ({40.2/24.8})	-	{30/18.5} ({40.2/24.8})	30/18.5 (40.2/24.8)
		Built in	kW (Hp)	-	-	-	-	-	-	{30/25} ({40.2/33.5})
	Max. spindle torque	Direct	N·m (ft-lbs)	286.5 {165.5} (211.4 {122.1})	-	286.5 {165.5} (211.4 {122.1})	-	286.5 {165.5} (211.4 {122.1})	-	-
		Belt	N·m (ft-lbs)	-	286.4 {307.2}{286.4} (211.4 {226.7}{211.4})	-	286.4 {307.2}{286.4} (211.4 {226.7}{211.4})	-	307.2 {365.5} {286.4} (226.7 {269.7} {211.4})	-
		Gear	N·m (ft-lbs)	-	{617.4} ({455.6})	-	{617.4} ({455.6})	-	{617.4} ({455.6})	617.4 (455.6)
		Built in	N·m (ft-lbs)	-	-	-	-	-	-	{420} ({310.0})
Feedrates	Rapid traverse rate	X axis	N·m (ft-lbs)	30 (22.1)						16 (11.8)
		Y axis	N·m (ft-lbs)	30 (22.1)						16 (11.8)
		Z axis	N·m (ft-lbs)	24 (17.7)						16 (11.8)
Automatic Tool Changer	Rapid traverse rate	Tool shank	-	BT 40 {CAT40 /DIN40}	BT 50 {CAT50 /DIN50}	BT 40 {CAT40 /DIN40}	BT 50 {CAT50 /DIN50}	BT 40 {CAT40 /DIN40}	BT 50 {CAT50 /DIN50}	BT 50 {CAT50 /DIN50}
		Pull stud	-	PS806	P50T-1 45deg	PS806	P50T-1 45deg	PS806	P50T-1 45deg	P50T-1 45deg
	Tool storage capa.		ea	30 {40}	24	30 {40}	24 {30}	30 {40}	24 {40}	30 {40}
	Max. tool diameter	Continous	mm (inch)	80 {76} (3.1 {3.0})	125 (4.9)	80 {76} (3.1 {3.0})	125 (4.9)	80 {76} (3.1 {3.0})	125 (4.9)	125 (4.9)
		Without Adjacent Tools	mm (inch)	125 (4.9)	220 (8.7)	125 (4.9)	220 (8.7)	125 (4.9)	220 (8.7)	220 (8.7)
	Max. tool length		mm (inch)	300 (11.8)	350 (13.8)	300 (11.8)	350 (13.8)	300 (11.8)	350 (13.8)	350 (13.8)
	Max. tool weight		kg (lb)	8 (17.6)	20 (44.1)	8 (17.6)	20 (44.1)	8 (17.6)	20 (44.1)	20 (44.1)
	Max. tool moment		N·m (ft-lbs)	5.88 (4.3)	22 (16.2)	5.88 (4.3)	22 (16.2)	5.88 (4.3)	22 (16.2)	22 (16.2)
	Tool seletion			MEMORY RANDOM						
	Tool change time (Tool-to-tool)		sec	1.3	2.5	1.3	2.5	1.3	2.5	2.5
	Tool change time (Chip-to-chip)		sec	3.7	5.5	3.7	5.5	3.7	5.5	6.67
Power source	Electric power supply (rated capacity)	Direct	kVA	32.2 {44.4}	-	35.1 {47.3}	-	38.5 {50.7}	-	-
		Belt	kVA	-	36.1 {36.1} {40}	-	39.4 {44.6} {48.4}	-	47.3 {51.8} {42.9}	-
		Gear	kVA	-	{47.7}	-	{48.4}	-	{51.8}	47.0
		Built in	kVA	-	-	-	-	-	-	{54.2}
	Compressed air supply		Mpa	0.54						
Tank capacity	Coolant tank capacity		L	420				470		500
Machine Dimensions	Height		mm (inch)	F_3012 (118.6) H/S_3117 (122.7)	2920 (115.0)	F_3107 (122.3) H/S_3216 (126.6)	3016 (118.7)	F_3227 (127.0) H/S_3337 (131.4)	3292 (129.6)	3598 (141.7)
	Length		mm (inch)	2467 (97.1)	2467 (97.1)	2692 (106.0)	2692 (106.0)	3900 (153.5)	3900 (153.5)	4315 (169.9)
	Width		mm (inch)	3350 (131.9)	3350 (131.9)	3350 (131.9)	3350 (131.9)	4050 (159.4)	4050 (159.4)	6480 (255.1)
	Weight		kg (lb)	7000 (15432.1)	7500 (16534.4)	9000 (19841.3)	9500 (20943.6)	13500 (29762.0)	13500 (29762.0)	23000 (50705.6)
Control	NC system		-	Fanuc i Plus, Fanuc 32i {SIEMENS S828D / HEIDENHAIN TNC 620}						

{ } : Option